PortableGrand

DGX-220 / YPG-225

SERVICE MANUAL

DGX-220

YPG-225

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PK 001761

YAMAHA
HAMAMATSU, JAPAN

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IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: This presentation or sale of this manual to any individual or firm does not constitute authorization certification, recognition of any applicable technical capabilities, or establish a principal-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and changes in specification are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground bus in the unit (heavy gauge black wires connect to this bus.)

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and/or plastic (Where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHAT SO EVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ WARNING

Components having special characteristics are marked ⚠ and must be replaced with parts having specification equal to those originally installed.

■ SAVING DATA

Saving and backing up your data

Be sure to perform it

The panel settings and some other types of data are not retained in memory when you turn off the power to the instrument. Save data you want to keep to the Registration Memory.
Saved data may be lost due to malfunction or incorrect operation.
Save important data to a USB storage device/or other external device such as a computer.

Backing up the USB storage device/external media

Be sure to perform it

To protect against data loss through media damage, we recommend that you save your important data onto two USB storage devices/external media.

■ SPECIFICATIONS

Keyboards
• 76 box type keys (E0–G6), with Touch Response.

Display
• LCD display (backlit)

Setup
• STANDBY/ON
• MASTER VOLUME:MIN–MAX

Panel Controls
• SONG, VOICE, STYLE, EASY SONG ARRANGER, P.A.T. ON/OFF, LESSON L, LESSON R, LESSON START, METRONOME ON/OFF, PORTABLE GRAND, DEMO, FUNCTION, MUSIC DATABASE, HARMONY ON/OFF, DUAL ON/OFF, SPLIT ON/OFF, TEMPO/TAP, [0]–[9], [+], [-], CATEGORY, Dial, REPEAT & LEARN (ACMP ON/OFF), A-B REPEAT (INTRO/ENDING/rit.), PAUSE (SYNC START), START/STOP, REW (MAIN/AUTO FILL), FF (SYNC STOP), REGIST MEMORY ([MEMORY/BANK], [1], [2]), SONG MEMORY (REC, [1]–[5], [A])

Realtime Control
• Pitch Bend Wheel

Voice
• 116 panel voices + 12 drum/SFX kits + 361 XGlite voices
• Polyphony: 32
• DUAL
• SPLIT

Style
• 150 Preset Styles + 1 User Style File
• Style Control:ACMP ON/OFF, SYNC STOP, SYNC START, START/STOP, INTRO/ENDING/rit., MAIN/AUTO FILL
• Fingering: Multi Finger, Full Keyboard
• Style Volume

Music Database
• 267

Education Feature
• Dictionary
• Lesson 1–3, Repeat & Learn

Registration Memory
• 8 banks x 2 types

Function
• VOLUME: Style Volume, Song Volume
• OVERALL: Tuning, Transpose, Split Point, Touch Sensitivity, Pitch Bend Range, Chord Fingering
• MAIN VOICE: Volume, Octave, Pan, Reverb Level, Chorus Level
• DUAL VOICE: Voice, Volume, Octave, Pan, Reverb Level, Chorus Level
• SPLIT VOICE: Voice, Volume, Octave, Pan, Reverb Level, Chorus Level
• EFFECT: Reverb Type, Chorus Type, Master EQ Type, Sustain
• HARMONY: Harmony Type, Harmony Volume
• Performance assistant technology: Performance assistant technology Type
• SFF Load: Style File Load
• PC: PC Mode
• MIDI: Local On/Off, External Clock, Initial Send, Keyboard Out, Style Out, Song Out
• METRONOME: Time Signature Numerator, Time Signature Denominator, Metronome Volume
• LESSON: Lesson Track (R), Lesson Track (L), Grade
• UTILITY: Demo Cancel

Effects
• Reverb: 9 types
• Chorus: 4 types
• Harmony: 26 types

Song
• 30 Preset Songs + 5 User Songs + Accessory CD-ROM Songs (70)
• Song Clear, Track Clear
• Song Volume
• Song Control: REPEAT & LEARN, A-B REPEAT, PAUSE, REW, FF, START/STOP

Performance assistant technology
• Chord, Chord/Free

Recording
• Song
User Song: 5 Songs
Recording Tracks: 1, 2, 3, 4, 5, STYLE

MIDI
• Local On/Off • Initial Send • External Clock
• Keyboard Out • Style Out • Song Out

Auxiliary jacks
• PHONES/OUTPUT, DC IN 12V, USB, SUSTAIN

Ampli er
• 6W + 6W

Speakers
• 12cm x 2 + 3cm x 2

Power Consumption
• 20W

Power Supply
• Adaptor: Yamaha PA-5D AC power adaptor
• Batteries: Six “D” size, R20P (LR20) or equivalent batteries

Dimensions (W x D x H)
• 1,178 x 412 x 137 mm (46-3/8" x 16-1/4" x 5-3/8")

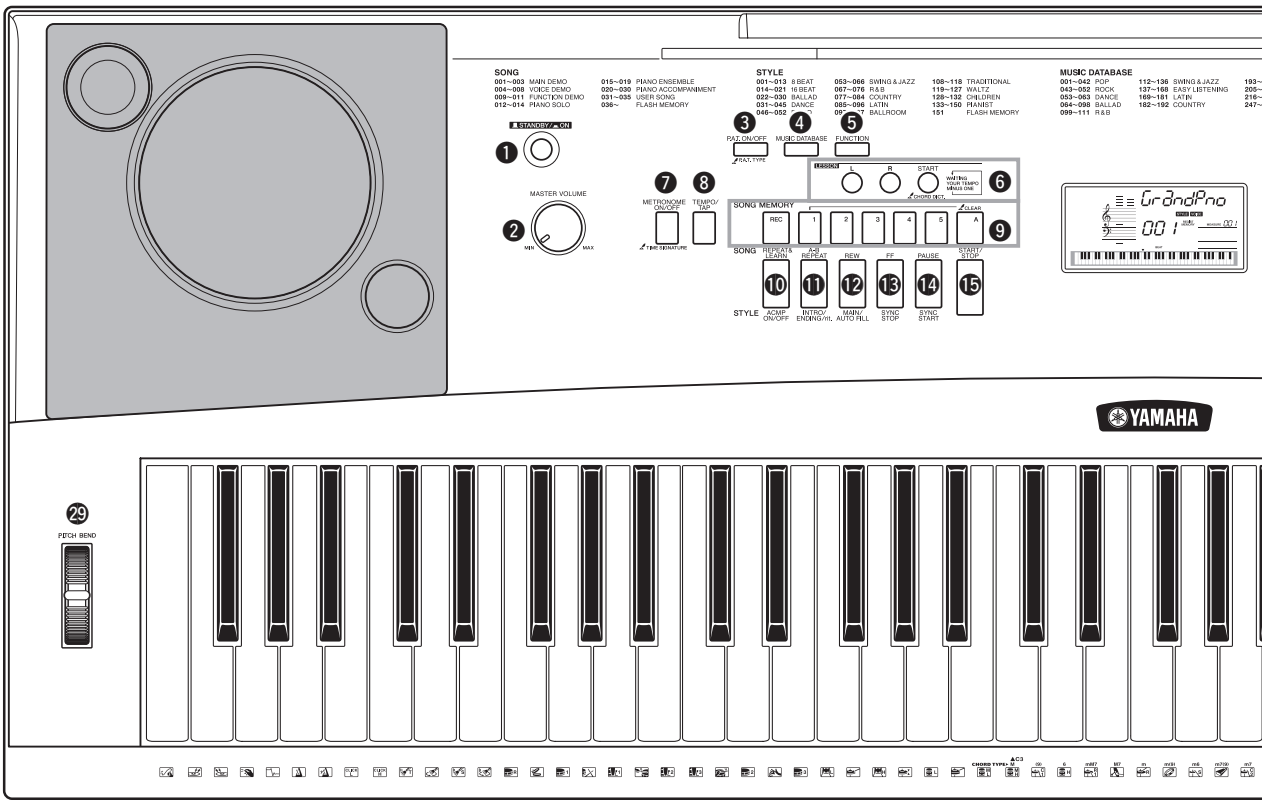
Weight
• 8.3kg (18 lbs. 5 oz.) (not including batteries)

Supplied Accessories
• Music Rest
• Accessory CD-ROM
• Owner’s Manual

Optional Accessories
• AC Power Adaptor: PA-5D
• Footswitch: FC4/FC5
• Keyboard Stand: LW-16
• Headphones: HPE-150

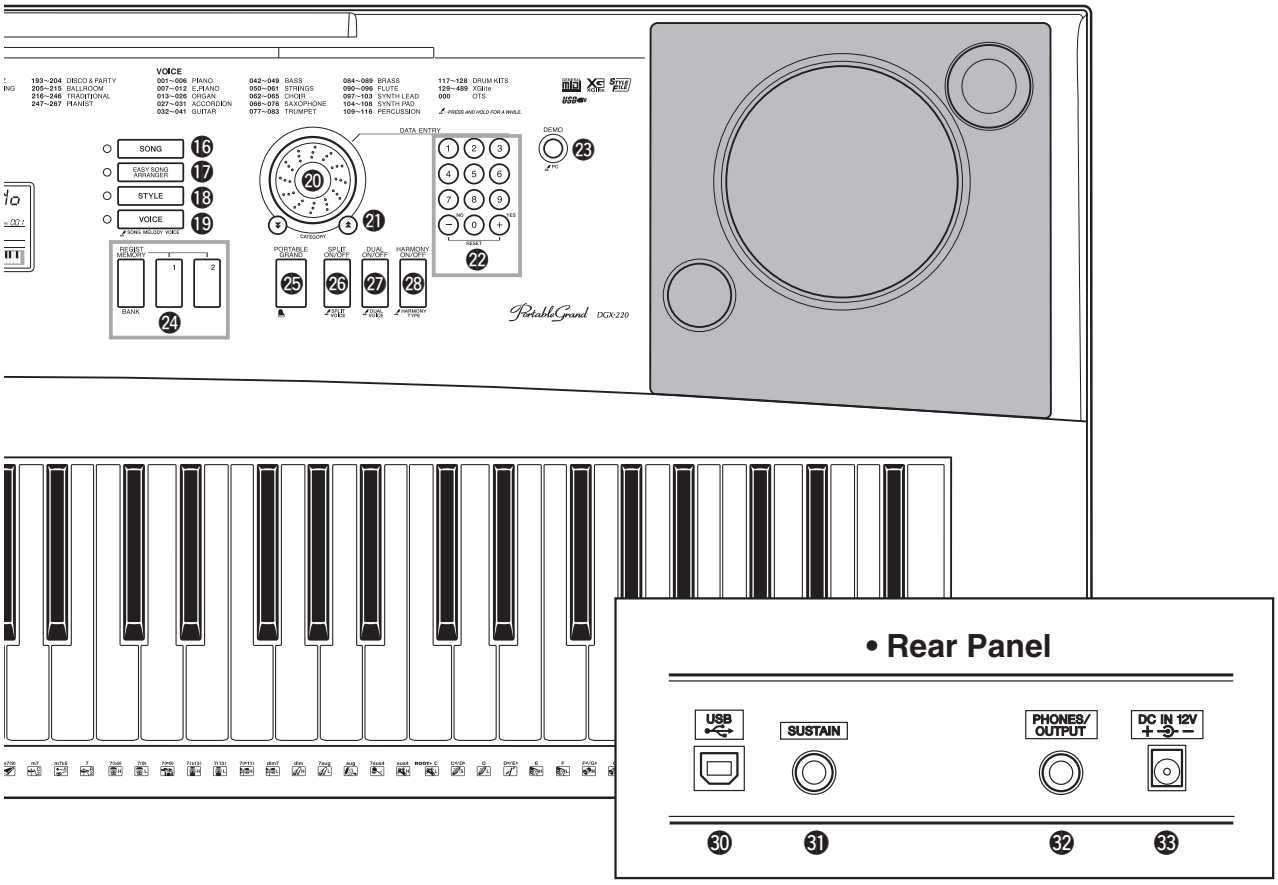
■ PANEL LAYOUT

• Front Panel



• Front Panel

❶ [STANDBY/ON] switch
❷ [MASTER VOLUME] control
❸ [P.A.T. ON/OFF] button
❹ [MUSIC DATABASE] button
❺ [FUNCTION] button
❻ LESSON [L], [R], [START] buttons
❼ [METRONOME ON/OFF] button
❽ [TEMPO/TAP] button
❾ SONG MEMORY
[REC], [1]–[5], [A] buttons
❿ [REPEAT & LEARN]/
[ACMP ON/OFF] button
⓫ [A-B REPEAT]/
[INTRO/ENDING/rit.] button
⓬ [REW]/[MAIN/AUTO FILL] button
⓭ [FF]/[SYNC STOP] button
⓮ [PAUSE]/[SYNC START] button
⓯ [START/STOP] button
⓰ [SONG] button
⓱ [EASY SONG ARRANGER] button
⓲ [STYLE] button
⓳ [VOICE] button
⓴ Dial
㉑ CATEGORY [▲] and [▼] buttons



• Rear Panel

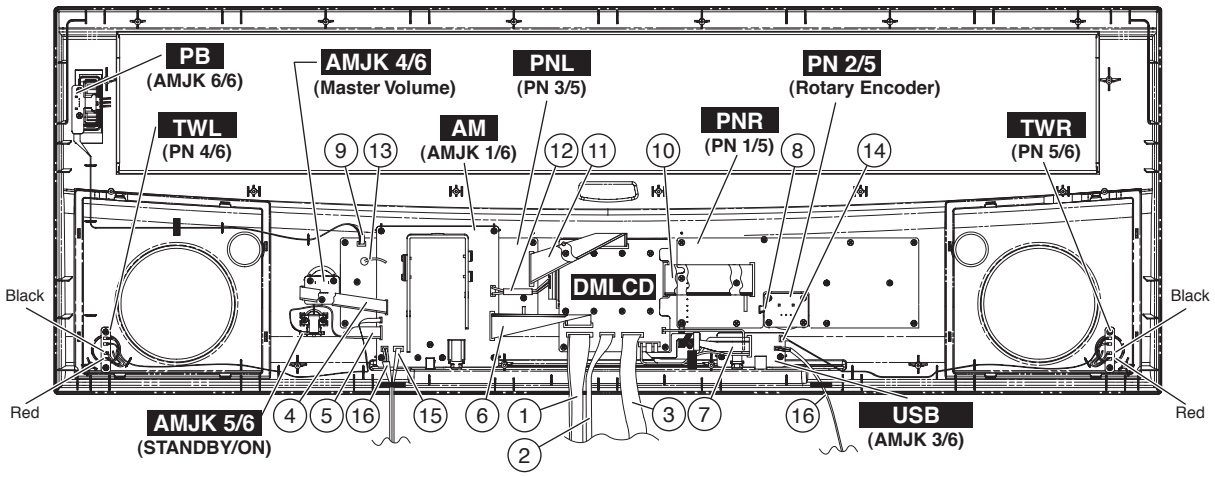
㉒ Number buttons [0]–[9],[+] and [-] buttons
㉓ [DEMO] button
㉔ REGIST MEMORY [MEMORY/BANK], [1], [2] buttons
㉕ [PORTABLE GRAND] button
㉖ [SPLIT ON/OFF] button
㉗ [DUAL ON/OFF] button
㉘ [HARMONY ON/OFF] button
㉙ PITCH BEND wheel

• Rear Panel

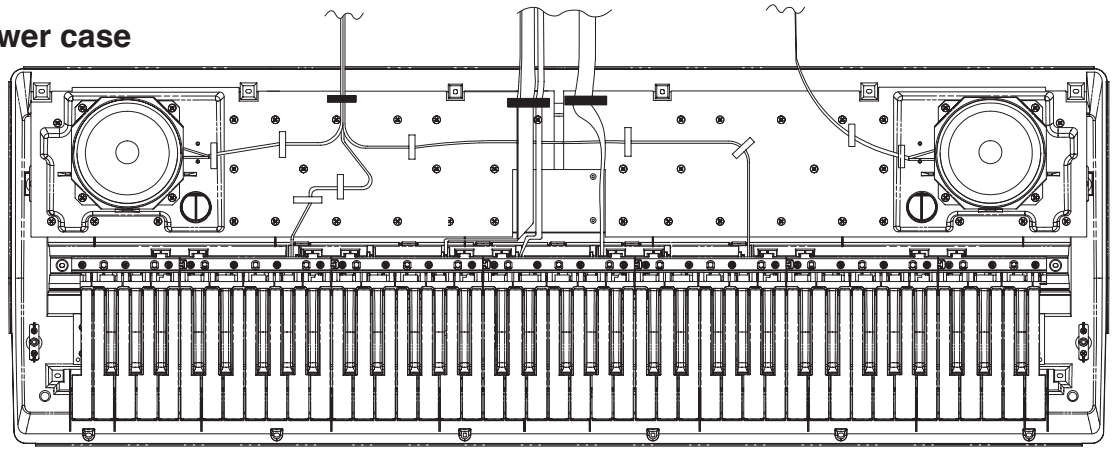
㉚ USB terminal
㉛ SUSTAIN jack
㉜ PHONES/OUTPUT jack
㉝ DC IN 12V jack

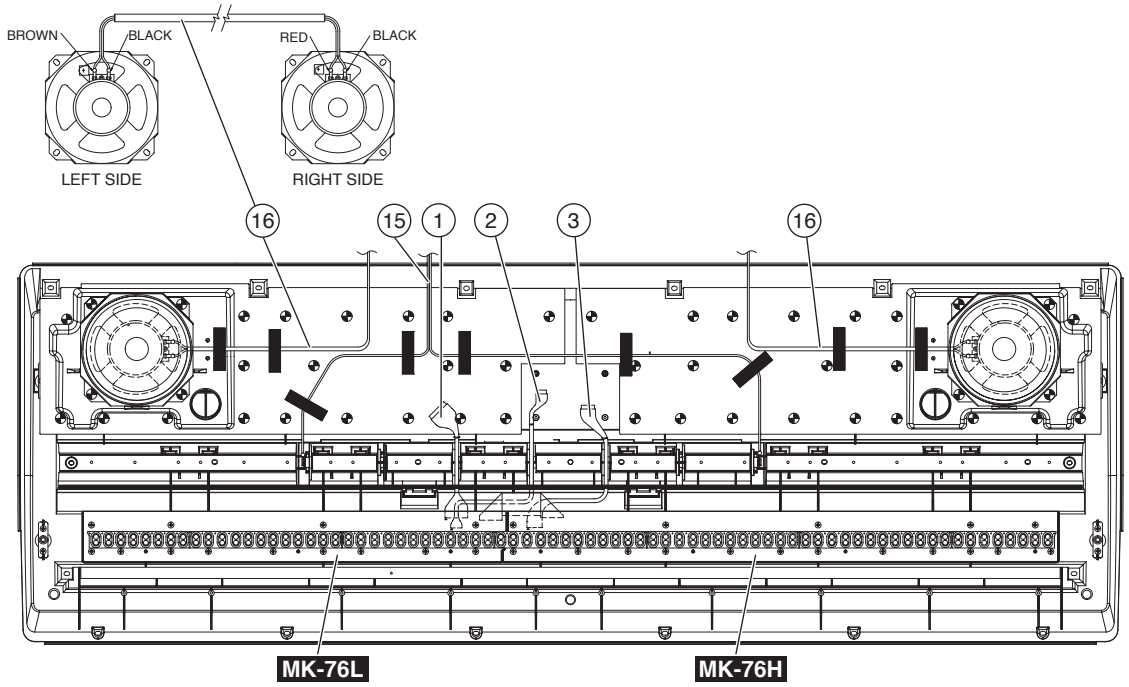
■ CIRCUIT BOARDS LAYOUT & WIRING

• Upper case



• Lower case



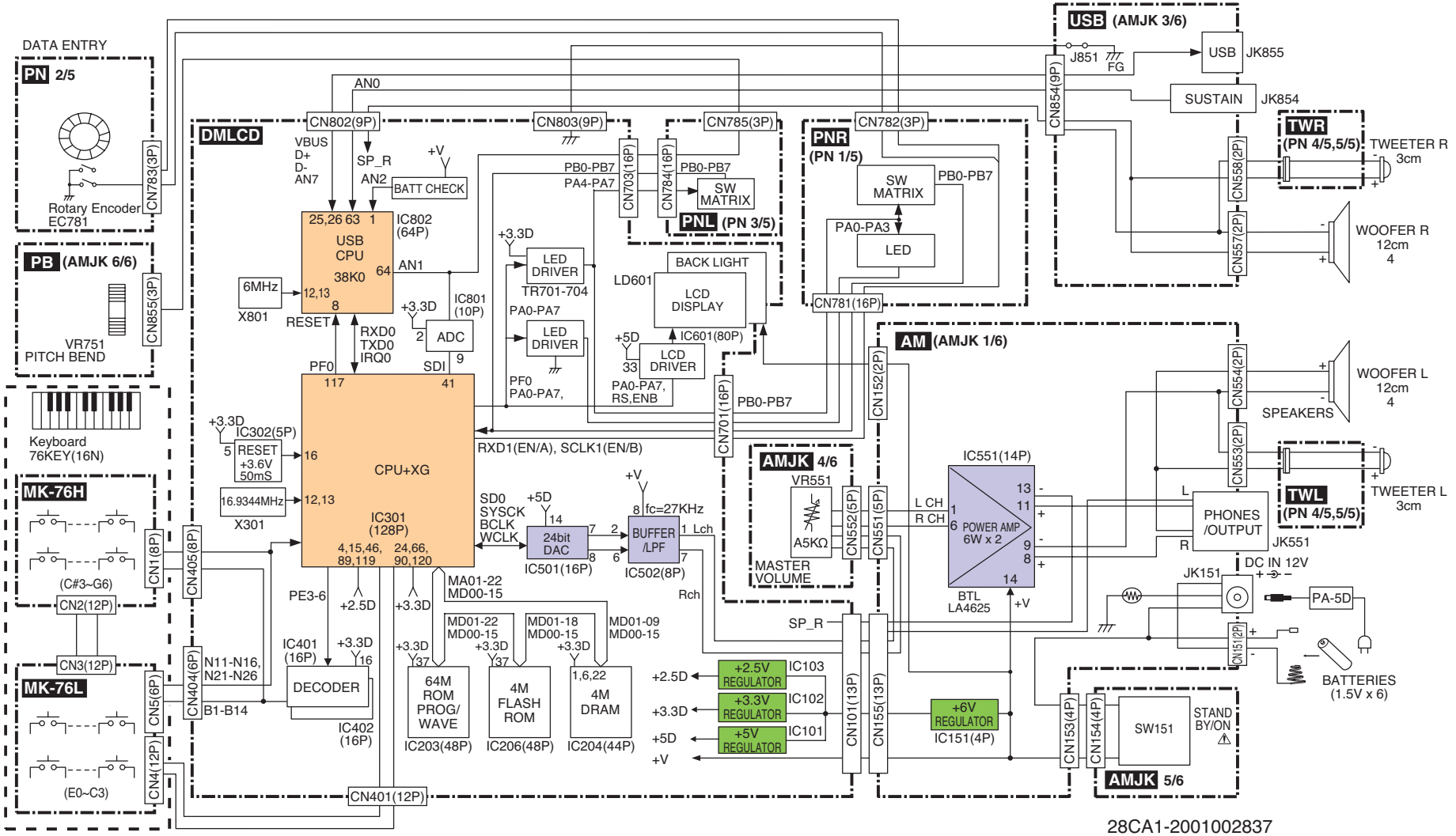


No.	Location	Part No.	Connector Assembly		Destination					Remarks
①	30	WC601000	MK1	MK-76L-CN4	*1	*5	DMLCD-CN401	*1	*5	12P
②	40	WC601400	MK4	MK-76L-CN5	*1	*5	DMLCD-CN404	*1	*5	6P
③	50	WC601500	MK5	MK-76H-CN1	*1	*5	DMLCD-CN405	*1	*5	8P
④	WH551	WG332600	VR3	AM-CN551	*2	*5	AM-CN552	*2	*5	5P
⑤	WH153	WG332700	STB2	AM-CN153	*2	*5	AM-CN154	*2	*5	4P
⑥	WH155	WG342900	AMDM2	AM-CN155	*2	*5	DMLCD-CN101	*1	*5	13P
⑦	WH854	WG332500	JK2	USB-CN854	*2	*5	DMLCD-CN802	*1	*5	9P
⑧	WH782	WG331300	ENC	PNR-CN782	*2	*5	PNR-CN783	*2	*5	3P
⑨	WH855	WG331500	PB2	PB-CN855	*2	*5	PML-CN785	*1	*5	3P
⑩	WH781	WG331900	PN3	PNR-CN781	*2	*5	DMLCD-CN701	*1	*5	16P
⑪	WH784	WG332000	PN4	PNL-CN784	*2	*5	DMLCD-CN703	*1	*5	16P
⑫	--	WC602600	BL	+/-	*3	*6	AM-CN152	1	*5	2P
⑬	WH553	WB342800	TW4	AM-CN553	*2	*5	TWL +/-	*3	*6	2P
⑭	WH558	WG342600	TW2	USB-CN558	*2	*5	TWR +/-	*3	*6	2P
⑮	130	V8735600	BAT	--	*3	*10	AM-CN151	*1	*10	3P
⑯	220	WG324100	SPL	+/-	*3	*10	AM-CN554 USB-CN557	*1	*10	2P

* The parts with "--" in "Part No." are not available as spare parts.
* 1 : Installation
* 2 : Dip soldering
* 3 : Manual soldering
* 4 : The conductor of a cable and the point of contact of a connector are untited.
* 5 : Edge mark is adjusted to Pin 1 (△) side.
* 6 : Edge mark is connected to + side.
* 7 : Edge mark is connected to + terminal.
* 8 : White wire is adjusted to Pin 1 (△) side.
* 9 : White wire is connected to + terminal.
* 10 : Red wire is connected to + terminal.
* 11 : Connected

Caution: Be sure to attach the removed filament tape just as it was before removal.

■ BLOCK DIAGRAM



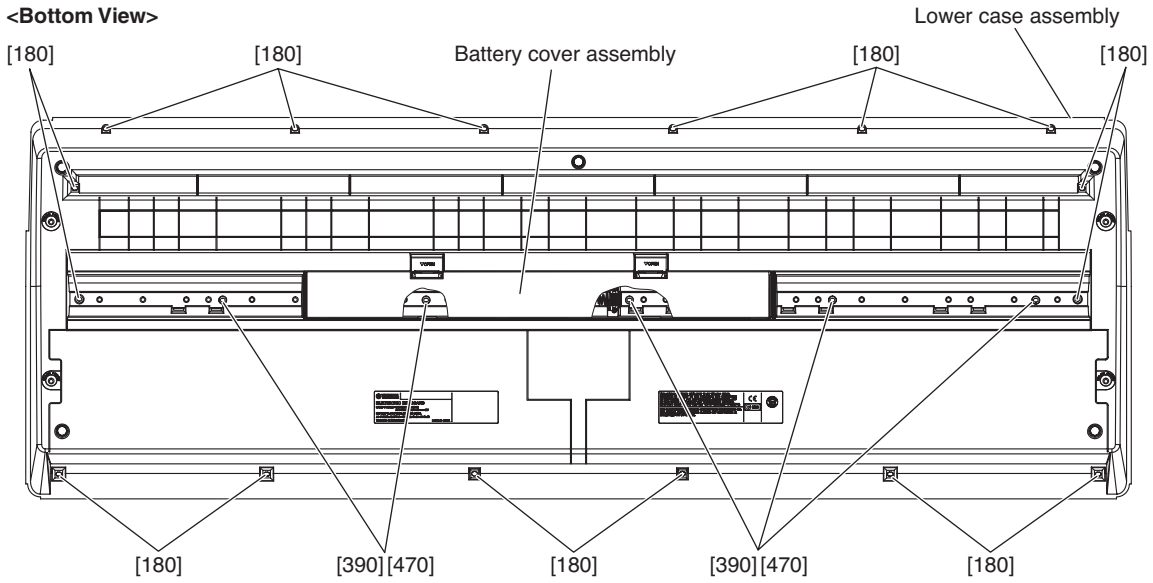
28CA1-2001002837

■ DISASSEMBLY PROCEDURE

1. Lower Case Assembly(Time required: About 3 minutes)

1-1 Remove the battery cover assembly. (Fig.1)

1-2 Remove the sixteen (16) screws marked [180], the five (5) screws marked [390] and the ten (10) spacers marked [470]. The lower case assembly can then be removed. (Fig.1)



(Fig.1)

[180]: Bind Head Tapping Screw-B 3.0X8 MFZN2W3 (WE774300)
[390]: Bind Head Tapping Screw-B 3.0X30 MFZN2W3 (WF491000)
[470]: Spacer (WG387800)

2. Spring Terminal

A. Spring Terminal (+) and (-)

2-1 Remove the Lower case assembly. (See procedure 1.)

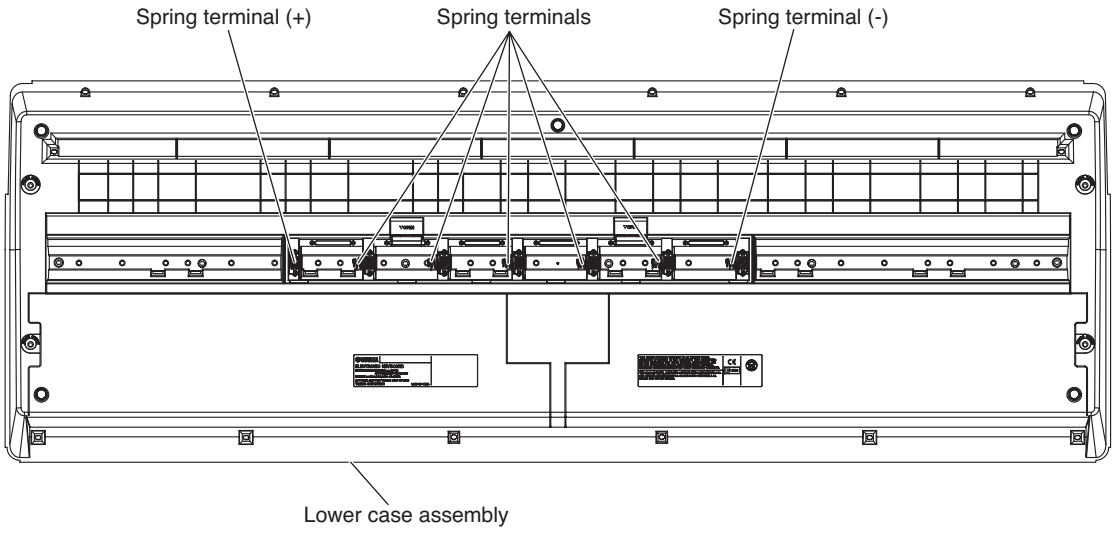
2-2 Remove the battery harness soldered to the spring terminal (+) or (-). (Fig.2)

2-3 Remove the hooks (two at each place) and pull out the spring terminal (+) or (-). (Fig.3, Fig.4)

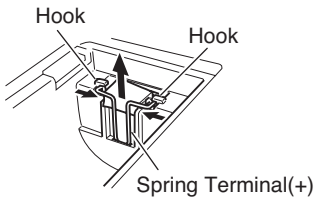
B. Spring Terminal

2-1 Remove the Lower case assembly. (See procedure 1.)

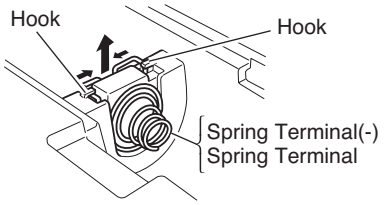
2-2 Remove spring terminal hooks (two at each place) and pull out the spring terminal. (Fig.4).



(Fig.2)



(Fig.3)



(Fig.4)

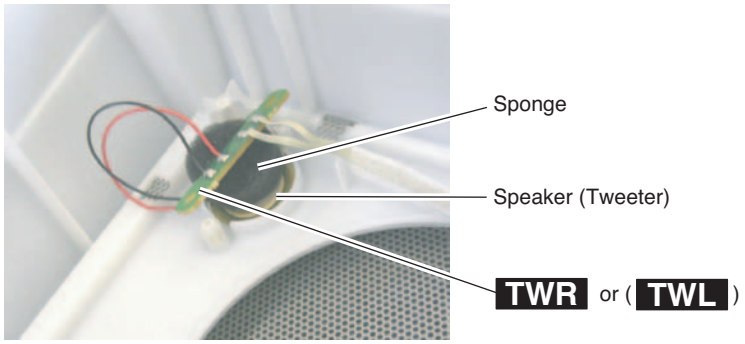
3. TWL and TWR(PN 4/5, 5/5) Circuit Boards, Speaker (Tweeter) (Time required: About 4 minutes for each)

3-1 Remove the lower case assembly. (See procedure 1.)

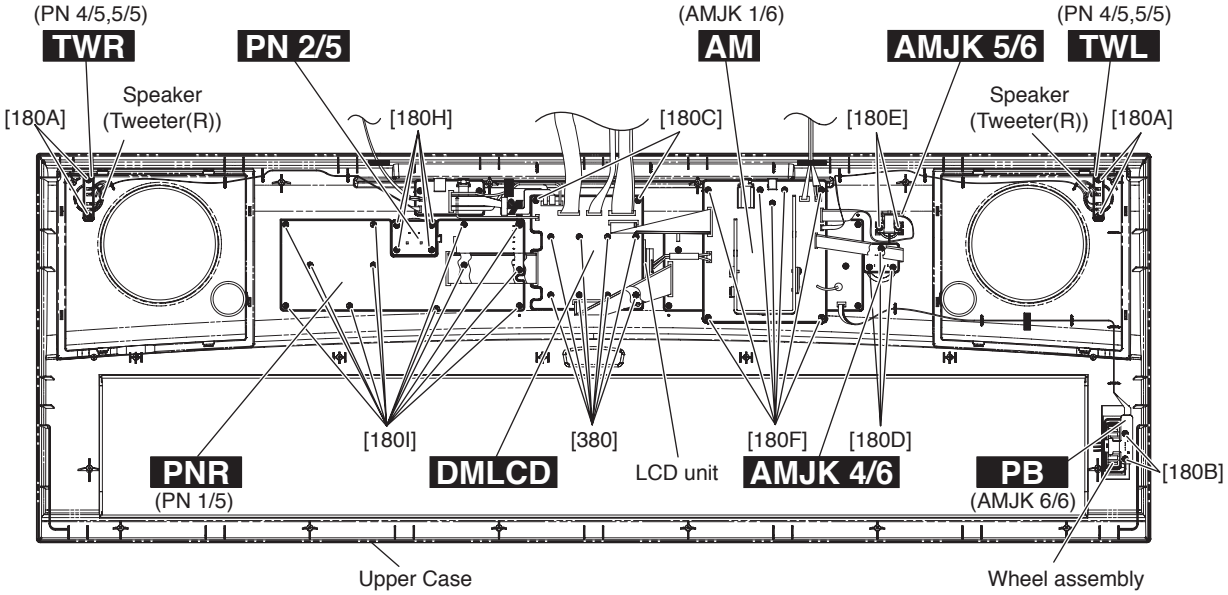
3-2 Remove two (2) screws marked [180A]. The TWL(PN 4/5, 5/5) circuit board can then be removed. (Fig.6)

3-3 Remove the speaker (tweeter). (Fig.5)

* The TWR circuit board can be removed in the same manner.



(Fig.5)



(Fig.6)

[180]: Bind Head Tapping Screw-B 3.0X8 MFZN2W3 (WE774300)
[380]: Bind Head Tapping Screw-B 3.0X12 MFZN2W3 (WE987400)

4. PB(AMJK 6/6) Circuit Board (Time required: About 4 minutes)

4-1 Remove the lower case assembly. (See procedure 1.)

4-2 Remove two (2) screws marked [180B]. The PB (AMJK 6/6) circuit board and the wheel assembly can then be removed. (Fig.6)

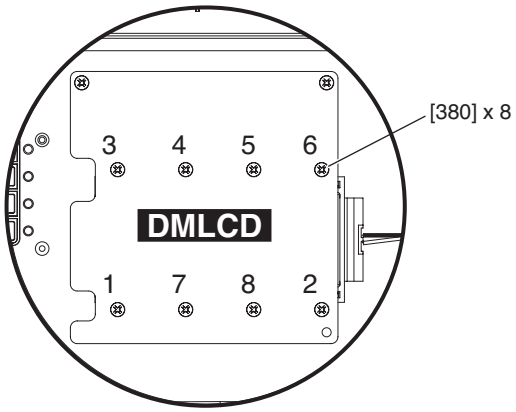
* The wheel assembly is inserted and mounted on the volume shaft of the PB (AMJK 6/6) circuit board.

5. DMLCD Circuit Board, LCD Unit (Time required: About 5 minutes)

5-1 Remove the lower case assembly. (See procedure 1.)

5-2 Remove two (2) screws marked [180C] and eight (8) screws marked [380]. The DMLCD circuit board and LCD unit can then be removed. (Fig.6)

* When installing the DMLCD circuit board, tighten the screws from No.1 through No.8 in order as shown in Fig.7.



(Fig.7)

[380]: Bind Head Tapping Screw-B 3.0X12 MFZN2W3 (WE987400)

6. AM (AMJK 1/6), AMJK 4/6 and AMJK 5/6 Circuit Boards (Time required: About 6 minutes)

* The AMJK 4/6 and AMJK 5/6 circuit boards are connected to the AM (AMJK 1/6) circuit board via wirings.

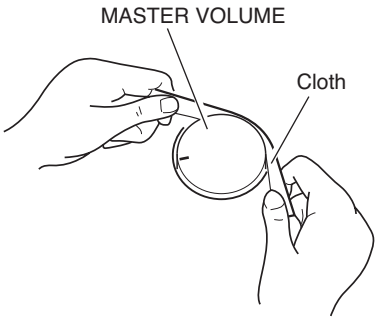
6-1 Remove the lower case assembly. (See procedure 1.)

6-2 Remove the master volume knob from the control panel. (Fig.8)

6-3 Remove three (3) screws marked [180D]. The AMJK 4/6 circuit board can then be removed from the upper case. (Fig.6)

6-4 Remove two (2) screws marked [180E]. The AMJK 5/6 circuit board can then be removed from the upper case. (Fig.6)

6-5 Remove seven (7) screws marked [180F]. The AM(AMJK 1/6), AMJK 4/6 and AMJK 5/6 circuit boards can then be removed. (Fig.6)



(Fig.8)

7. PNR (PN 1/5) and PN 2/5 Circuit Boards (Time required: About 6 minutes)

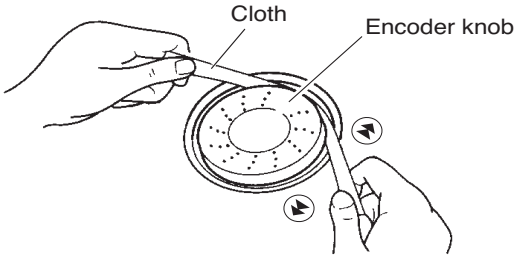
* The PN 2/5 circuit board is connected to the PNR (PN 1/5) circuit board via a wiring.

7-1 Remove the lower case assembly. (See procedure 1.)

7-2 Remove the encoder knob from the control panel. (Fig.9)

7-3 Remove four (4) screws marked [180H]. The PN 2/5 circuit board can then be removed from the upper case. (Fig.6)

7-4 Remove twelve (12) screws marked [180I]. The PNR (PN 1/5) and PN 2/5 circuit boards can then be removed. (Fig.6)



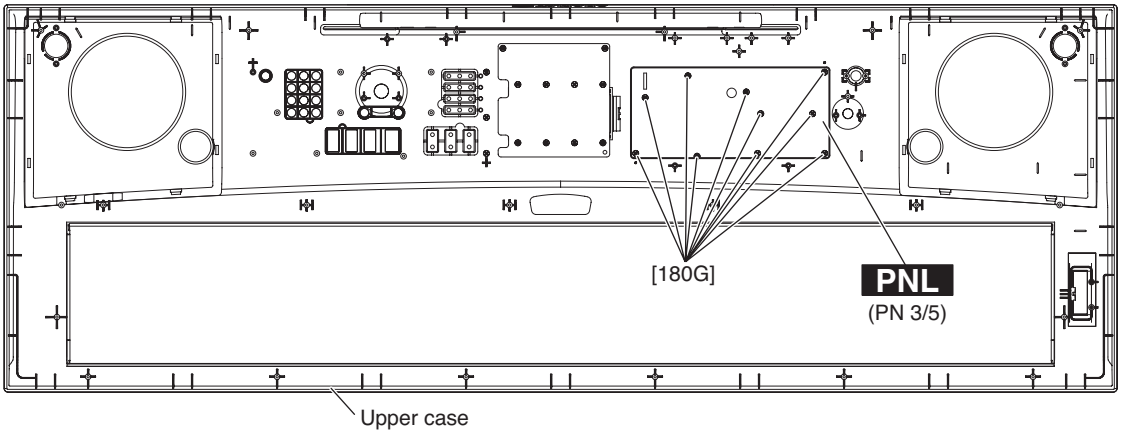
(Fig.9)

8. PNL(PN 3/5) Circuit Board (Time required: About 8 minutes)

8-1 Remove the lower case assembly. (See procedure 1.)

8-2 Remove the AM(AMJK 1/6), AMJK 4/6 and AMJK 5/6 circuit boards. (See procedure 6.)

8-3 Remove ten (10) screws marked [180G]. The PNL (PN 3/5) circuit board can then be removed. (Fig.10)



(Fig.10)

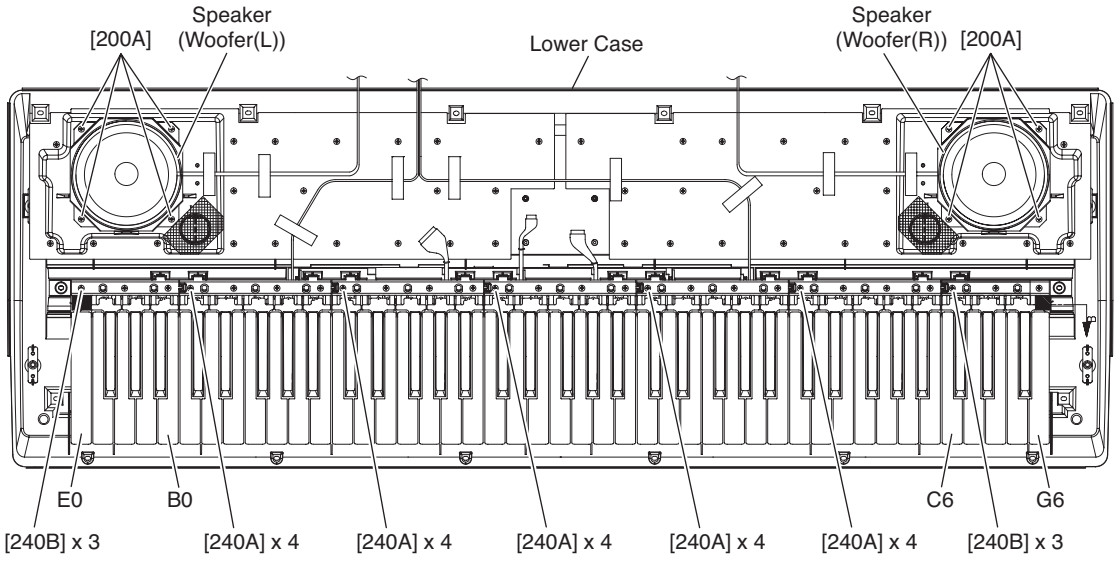
[180]: Bind Head Tapping Screw-B 3.0X8 MFZN2W3 (WE774300)

9. Speaker (Woofer) (Time required: About 4 minutes)

9-1 Remove the lower case assembly. (See procedure 1.)

9-2 Remove four (4) screws marked [200A], then remove the speaker (woofer). (Fig.11)

* Left and right speakers (woofers) can be removed in the same manner.



(Fig.11)

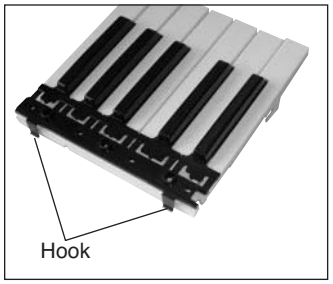
[200]: Bind Head Tapping Screw-B 4.0X10 MFZN2W3 (WE974500)
[240]: Bind Head Tapping Screw-P 3.0X20 MFZN2W3 (WF492000)

10. White and Black Keys

10-1 Remove the lower case assembly. (See procedure 1.)

10-2 Remove four (4) screws marked [240A] fixing the white/black keys for each octave (C through B), then remove the white/black keys for one (1) octave. (Fig.11)
At that time, push hooks on the black keys to lift the rear part, then pull and slide the keys toward you to remove it. (Fig.12)

10-3 For the E0-B0 keys and C6-G6 keys, remove three (3) screws [240B], push hooks on the black keys to lift the rear part, and then pull and slide the keys toward you to remove it. (Fig.11)



(Fig.12)

11. MK-76L and MK-76H Circuit Boards (Time required: About 7 minutes for each)

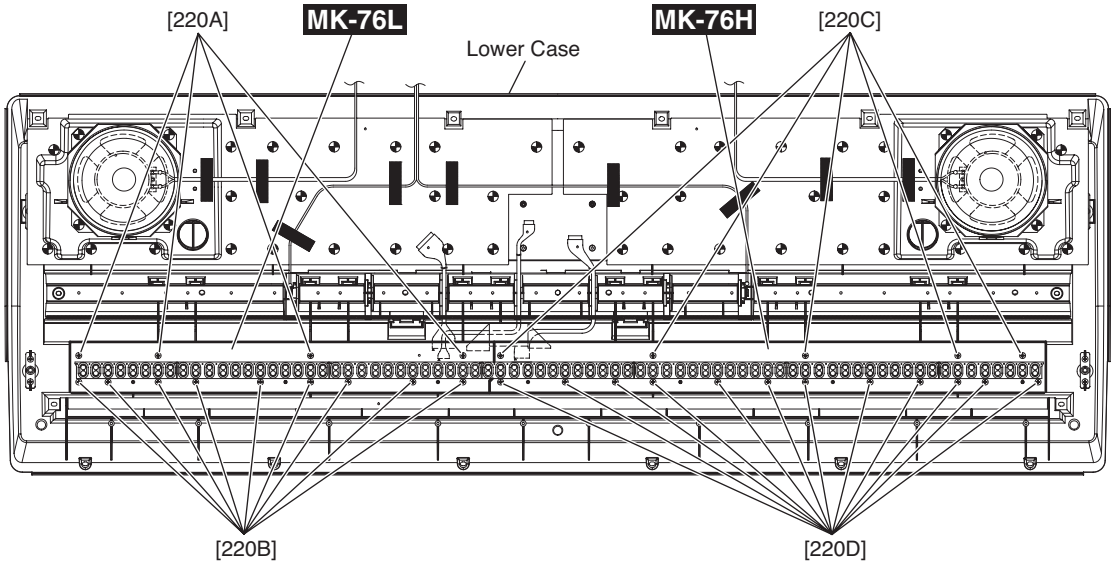
11-1 Remove the lower case assembly. (See procedure 1.)

11-2 Remove the E0-B3 white/black keys. (See procedure 10.)
Remove four (4) screws [220A] and nine (9) screws [220B]. The MK-76L circuit board and the key guide can then be removed. (Fig.13)

11-3 Remove the C3-G6 white/black keys. (See procedure 10.)
Remove five (5) screws [220C] and twelve (12) screws [220D]. The MK-76H circuit board and the key guide can then be removed. (Fig.13)

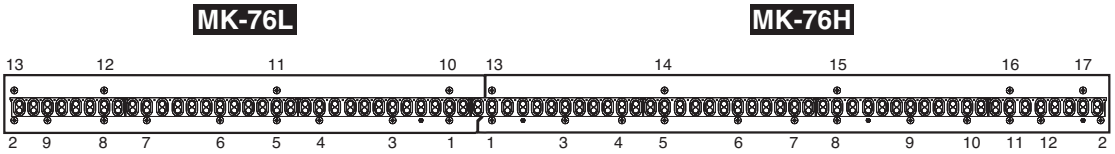
* When installing the MK-76L circuit board, tighten the screws from No. 1 through No. 13 in order as shown in Fig.14.

* When installing the MK-76H circuit board, tighten the screws from No. 1 through No. 17 in order as shown in Fig.14.



(Fig.13)

[220]: Bind Head Tapping Screw-B 3.0X10 MFZN2W3 (WE774200)



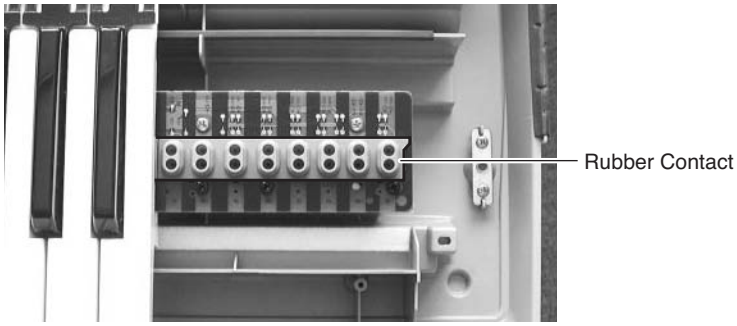
(Fig.14)

12. Rubber Contact

12-1 Remove the lower case assembly. (See procedure 1.)

12-2 Remove the keyboard assembly corresponding to the rubber contact. (See procedure 10.)

12-3 Remove the rubber contact. (Fig.15)



(Fig.15)

■ LSI PIN DESCRIPTION

M38K07M4L-307HP (X5186100) CPU(USB) 15
YMW767-VTZ (X6055A00) CPU 16
NT3881DFG-01 (X3148A00) LCD DRIVER 17
AK4385ET (X6040A00) DAC 17

● M38K07M4L-307HP (X5186100) CPU (USB)

DMLCD:IC802

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	P12/DQ2/AN2	I/O	Port P1 (In/output)	33	P26	I/O	Port P2 (In/output)
2	P13/DQ3/AN3	I/O		34	P27	I/O	
3	P14/DQ4/AN4	I/O		35	P50/INT0	I/O	Port P5 (In/output)/Interruption input
4	P15/DQ5/AN5	I/O		36	P51/CNTR0	I/O	Port P5 (In/output)/Timer X function
5	P16/DQ6/AN6	I/O		37	P52/INT1	I/O	Port P5 (In/output)/Interruption input
6	P17/DQ7/AN7	I/O		38	P53	I/O	Port P5 (In/output)
7	CNVSS	-	Ground	39	P54	I/O	
8	RESET	I	System reset input	40	P55	I/O	
9	EccE	-	Analog power supply +3.3V	41	P56	I/O	
10	VREF	I	Reference voltage input	42	P57	I/O	
11	Vss	-	Ground	43	P00	I/O	Port P0 (In/output)
12	XIN	I	Clock input	44	P01	I/O	
13	XOUT	O	Clock output	45	P02	I/O	
14	Vcc	-	Power supply +3.3V	46	P03	I/O	
15	CNVSS2	-	Ground	47	P04	I/O	
16	P60(LED0)	I/O	Port P6 (In/output)	48	P05	I/O	
17	P61(LED1)	I/O		49	P06	I/O	
18	P62(LED2)	I/O		50	P07	I/O	
19	P63(LED3)	I/O		51	P40/ExDREQ/RxD	I/O	Port P4 (In/output)/External bus interface/Serial I/O
20	PVss	-	Analog power supply +3.3V	52	P41/ExDACK/TxD	I/O	
21	PVcc	-		53	P42/ExTC/SCLK	I/O	
22	DVcc	-		54	P43/ExA1/SRDY	I/O	
23	USBVREF	-	USB reference power supply	55	P30	I/O	Port P3 (In/output)
24	TrON	O	USB reference voltage output	56	P31	I/O	
25	D0+	I/O	USB upstream in/output	57	P32	I/O	
26	D0-	I/O		58	P33/ExINT	I/O	Port P3 (In/output)/External bus interface
27	P20	I/O	Port P2 (In/output)	59	P34/ExCS	I/O	
28	P21	I/O		60	P35/ExWR	I/O	
29	P22	I/O		61	P36/ExRD	I/O	
30	P23	I/O		62	P37/ExA0	I/O	
31	P24	I/O		63	P10/DQ0/AN0	I/O	Port P1 (In/output)
32	P25	I/O		64	P11/DQ1/AN1	I/O	

● YMW767-VTZ (X6055A00) CPU

DMLCD: IC301

Pin No.	NAME	I/O	FUNCTION	Pin No.	NAME	I/O	FUNCTION
1	VSS	-	VSS	65	VSS	-	VSS
2	TESTN	I	Input for TEST	66	IOVDD	-	IOVDD +3.3V
3	PLLBPN	I	PLL bypass select	67	LBN/LWRN/PF6	O	External memory lower-byte enable
4	PLLVDD	-	PLLVDD +2.5V	68	UBN/UWRN/PF7	O	External memory upper-byte enable
5	CIN	-	Capacitor terminal for PLL	69	RDN/PF4	O	External memory read enable
6	PLLVSS	-	PLLVSS	70	MD00	I/O	
7	TRSTN	I		71	MD08	I/O	
8	TMS	I	JTAG input	72	MD01	I/O	
9	TCK	I		73	MD09	I/O	External memory data bus
10	TDI	I		74	MD02	I/O	
11	TD0	O	JTAG output	75	MD10	I/O	
12	XI	I	Crystal oscillator	76	MD03	I/O	
13	XO	O	Crystal oscillator	77	VSS	-	VSS
14	VSS	-	VSS	78	MD11	I/O	
15	VDD	-	VDD +2.5V	79	MD04	I/O	
16	ICN	I	Hardware reset	80	MD12	I/O	
17	ECSN	I	CPU I/F chip select	81	MD05	I/O	
18	EWRN/PD5	I	CPU I/F write enable	82	MD13	I/O	External memory data bus
19	ERDN/PD4	I	CPU I/F read enable	83	MD06	I/O	
20	EA3/PD3	I		84	MD14	I/O	
21	EA2/PD2	I	CPU I/F address bus	85	MD07	I/O	
22	EA1/PD1	I		86	MD15	I/O	
23	EA0/PD0	I		87	WRN/PF5	O	External memory write enable
24	IOVDD	-	IOVDD +3.3V	88	VSS	-	VSS
25	ED0/PC0	I/O		89	VDD	-	VDD +2.5V
26	ED1/PC1	I/O		90	IOVDD	-	IOVDD +3.3V
27	ED2/PC2	I/O		91	MA17	O	
28	ED3/PC3	I/O	CPU I/F data bus	92	MA16	O	
29	ED4/PC4	I/O		93	MA15	O	
30	ED5/PC5	I/O		94	MA14	O	
31	ED6/PC6	I/O		95	MA13	O	
32	ED7/PC7	I/O		96	MA12	O	
33	VSS	-	VSS	97	MA11	O	External memory address bus
34	IRQ0N/PH0	I	Interrupt input	98	MA10	O	
35	TxD0	O	Serial output	99	MA09	O	
36	RxD0	I	serial input	100	MA08	O	
37	TxD1/PG2	O	Serial output	101	MA07	O	
38	RxD1/PH1	I	serial input	102	MA06	O	
39	SCLK1/PH2	I	External synchronization clock	103	MA05	O	
40	SD0	O	Serial output	104	VSS	-	VSS
41	SDI/PH3	I	serial input	105	MA04	O	
42	BCLK	O	Bit clock output	106	MA03	O	External memory address bus
43	WCLK/SY0	O	Word clock output	107	MA02	O	
44	SYSCLK/PG3	O	Clock output	108	MA01	O	
45	VSS	-	VSS	109	CS0N/PG0	O	External memory chip select
46	VDD	-	VDD +2.5V	110	MA18	O	
47	IOVDD	-	IOVDD +3.3V	111	MA19	O	
48	PA0	I/O		112	MA21/PF1	O	External memory address bus
49	PA1	I/O		113	MA22/PF2	O	
50	PA2	I/O		114	MA20	O	
51	PA3	I/O	I/O port	115	MA23/PF3	O	External memory address bus
52	PA4	I/O		116	CS1N/PG1	O	External memory chip select
53	PA5	I/O		117	MA00/PF0	O	
54	PA6	I/O		118	VSS	-	VSS
55	PA7	I/O		119	VDD	-	VDD +2.5V
56	VSS	-	VSS	120	IOVDD	-	IOVDD +3.3V
57	PB0	I/O		121	CS2N/PE0	O	
58	PB1	I/O		122	CS3N/PE1	O	
59	PB2	I/O		123	CS4N/CASN/PE2	O	
60	PB3	I/O	I/O port	124	CS5N/PE3	O	External memory chip select
61	PB4	I/O		125	CS50RDN/PE4	O	
62	PB5	I/O		126	CS51WRN/PE5	O	
63	PB6	I/O		127	CS52WRN/PE6	O	
64	PB7/SYI	I/O		128	CS53WRN/RASN/PE7	O	

● NT3881DFG-01 (X3148A00) LCD DRIVER

DMLCD:IC601

PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	S22	O		41	DB2	I/O	
2	S21	O		42	DB3	I/O	
3	S20	O		43	DB4	I/O	Data interface
4	S19	O		44	DB5	I/O	
5	S18	O		45	DB6	I/O	
6	S17	O		46	DB7	I/O	
7	S16	O		47	C1	O	
8	S15	O		48	C2	O	
9	S14	O		49	C3	O	
10	S13	O		50	C4	O	
11	S12	O	Segment signal output for LCD driving	51	C5	O	
12	S11	O		52	C6	O	
13	S10	O		53	C7	O	
14	S9	O		54	C8	O	Common signal output for LCD driving
15	S8	O		55	C9	O	
16	S7	O		56	C10	O	
17	S6	O		57	C11	O	
18	S5	O		58	C12	O	
19	S4	O		59	C13	O	
20	S3	O		60	C14	O	
21	S2	O		61	C15	O	
22	S1	O		62	C16	O	
23	Vss		Ground	63	S40	O	
24	OSC1	I	Oscillator	64	S39	O	
25	OSC2	O	Oscillator	65	S38	O	
26	V1			66	S37	O	
27	V2			67	S36	O	
28	V3		Power supply	68	S35	O	
29	V4			69	S34	O	
30	V5			70	S33	O	
31	CLK1	O	Data latch clock	71	S32	O	Segment signal output for LCD driving
32	CLK2	O	Data shift clock	72	S31	O	
33	Vdd		Power supply (+5 V)	73	S30	O	
34	M	O	Alternated signal for LCD driver output	74	S29	O	
35	D	O	Display data interface	75	S28	O	
36	RS	I		76	S27	O	
37	R/W	I	Read/write	77	S26	O	
38	E	I	Enable	78	S25	O	
39	DB0	I/O	Data interface	79	S24	O	
40	DB1	I/O	Data interface	80	S23	O	

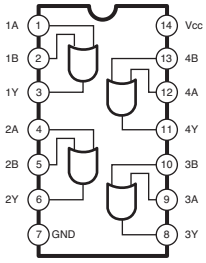
● AK4385ET (X6040A00) DAC (Digital to Analog Converter)

DMLCD:IC501

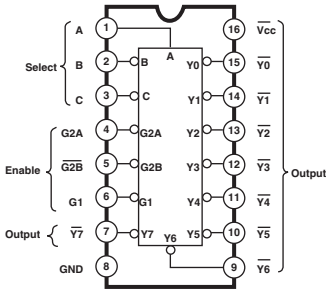
PIN NO.	NAME	I/O	FUNCTION	PIN NO.	NAME	I/O	FUNCTION
1	MCLK	I	Master Clock	9	AOUTR-	O	Rch Analog out(-)
2	BICK	I	Audio Serial Data Clock	10	AOUTR+	O	Rch Analog out(+)
3	SDTI	I	Audio Serial Date Input	11	AOUTL-	O	Lch Analog out(-)
4	LRCK	I	L/R Clock	12	AOUTL+	O	Lch Analog out(+)
5	PDN	I	Power Down mode	13	Vss	-	Ground
6	CSN	I	Chip Select	14	VDD	-	Power Supply
7	CCLK	I	Control Data Input	15	DZFR	O	Rch Data Zero Input Detect
8	CDTI	I	Control Data Input	16	DZFL	O	Lch Data Zero Input Detect

■ IC BLOCK DIAGRAM

● **SN74LV32APWR** (X5647A00)
Quad 2 Input OR
DMLCD:IC207

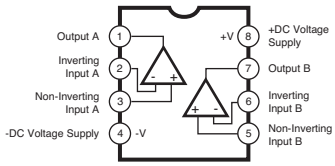


● **SN74LV138APWR**(X7284A00)
DECODER
DMLCD: IC401,402



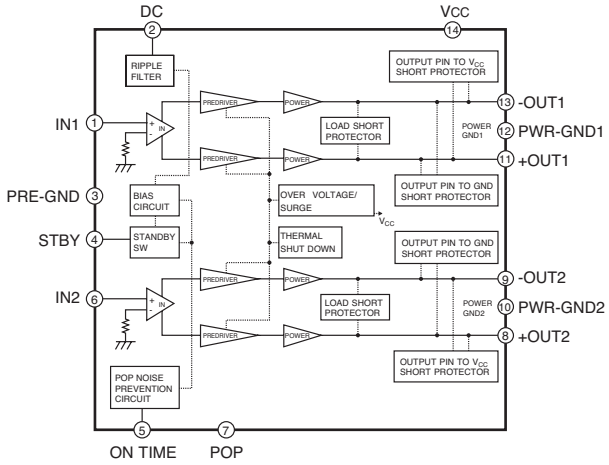
ENABLE INPUTS			SELECT INPUTS			OUTPUTS						
G1	G2A	G2B	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
X	H	X	X	X	X	H	H	H	H	H	H	H	H
X	X	H	X	X	X	H	H	H	H	H	H	H	H
L	X	X	X	X	X	H	H	H	H	H	H	H	H
H	L	L	L	L	L	L	H	H	H	H	H	H	H
H	L	L	L	L	H	H	L	H	H	H	H	H	H
H	L	L	L	H	L	H	H	L	H	H	H	H	H
H	L	L	L	H	H	H	H	H	L	H	H	H	H
H	L	L	H	L	L	H	H	H	H	L	H	H	H
H	L	L	H	L	H	H	H	H	H	H	L	H	H
H	L	L	H	H	L	H	H	H	H	H	H	L	H
H	L	L	H	H	H	H	H	H	H	H	H	H	L

● **BA4510F-E2** (X7300A00)
Dual Operational Amplifier
DMLCD: IC502



● **LA4625** (XY209A00)
Power Amplifier

AMJK: IC551



■ CIRCUIT BOARDS

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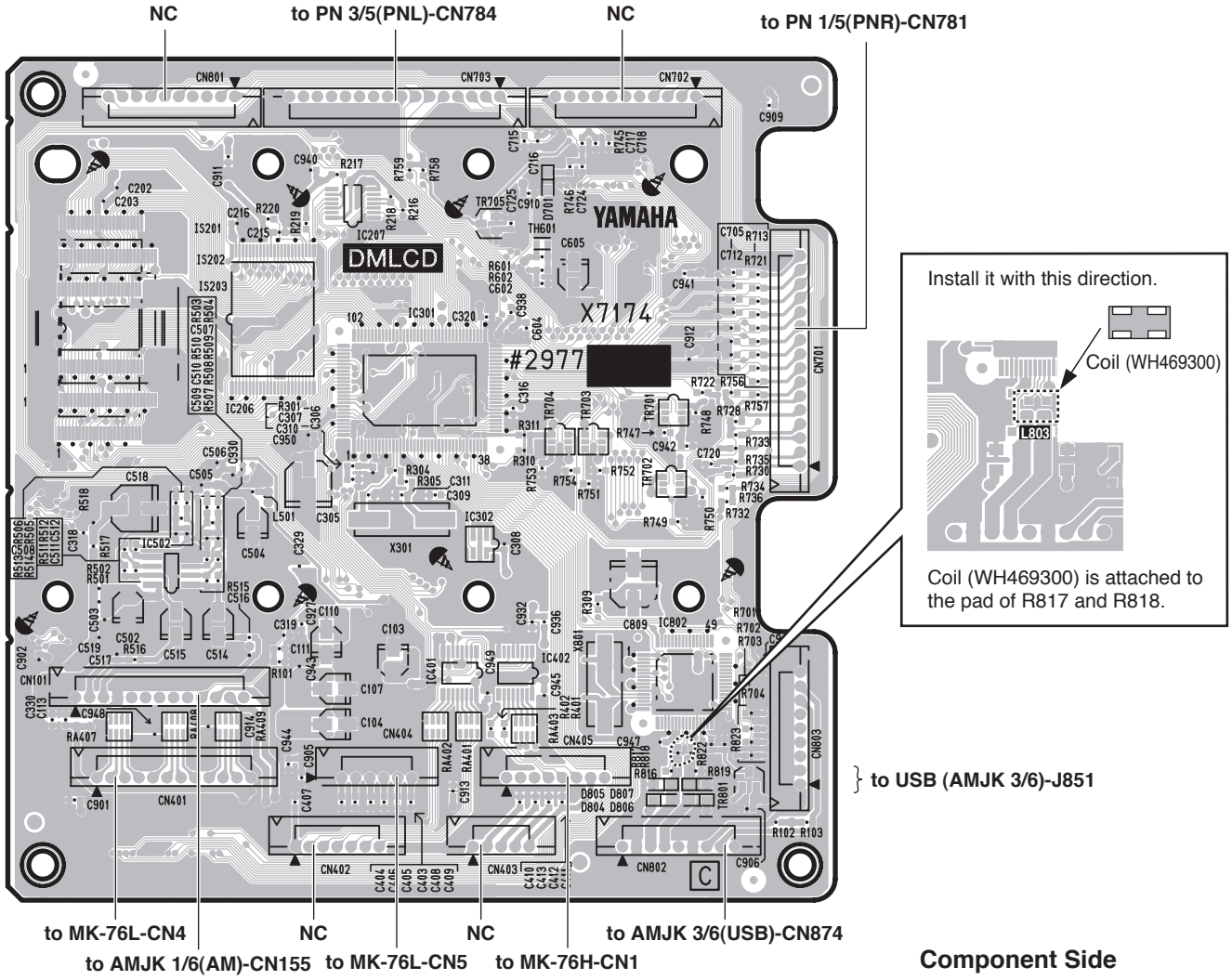
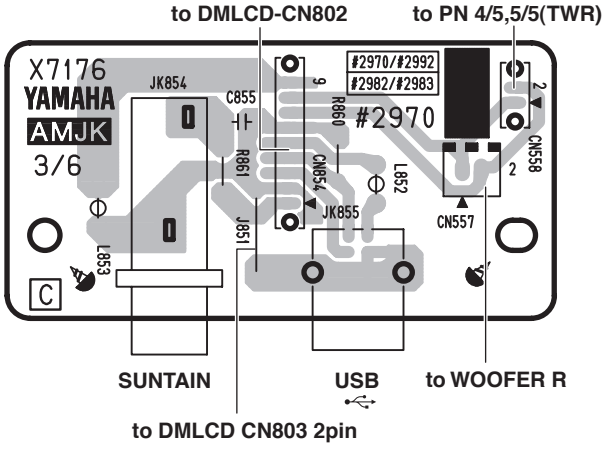
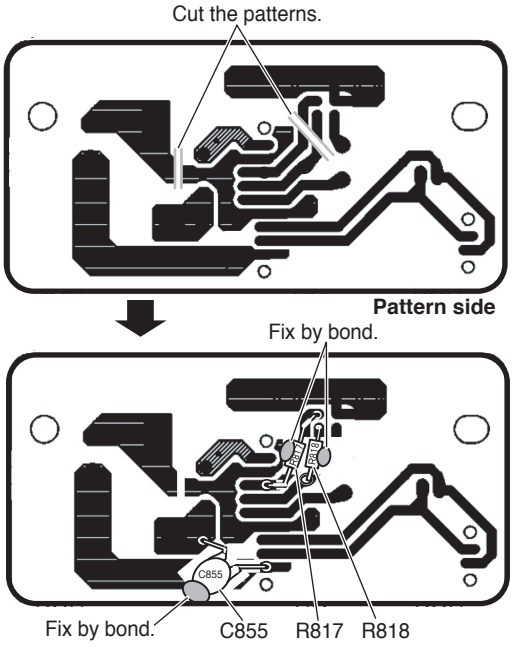
• DMLCD Circuit Board



• USB (AMJK 3/6) Circuit Board

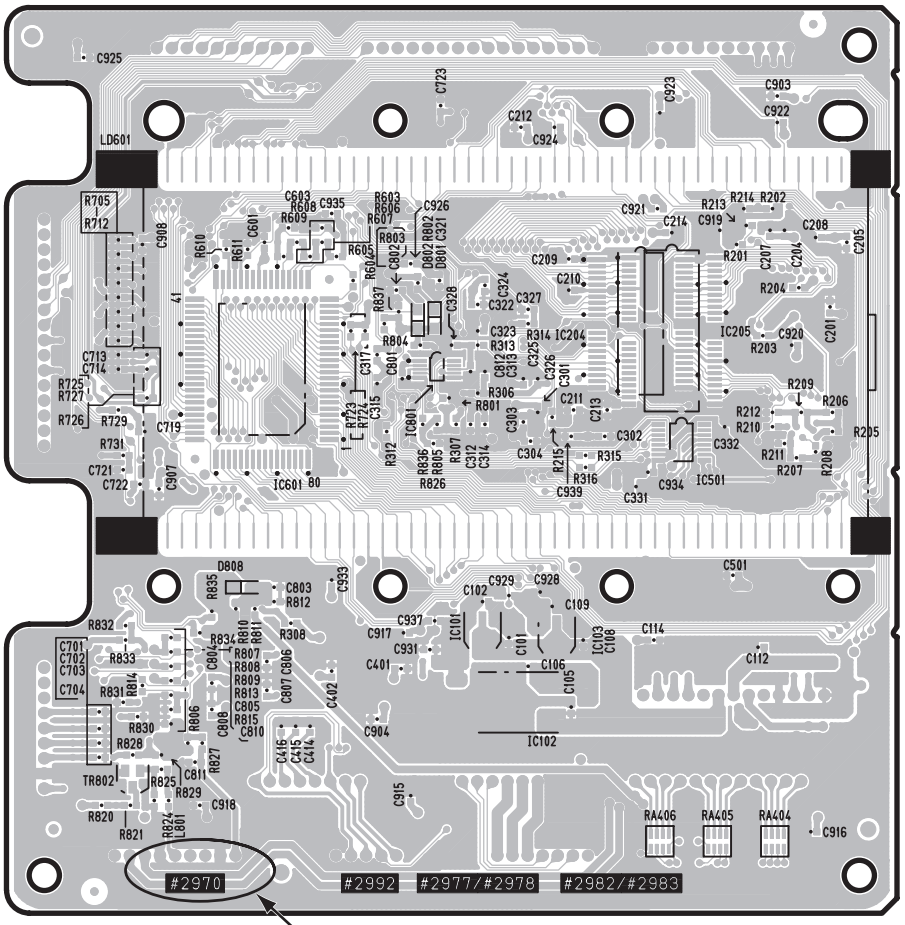




Note: See parts list for details of circuit board component parts.

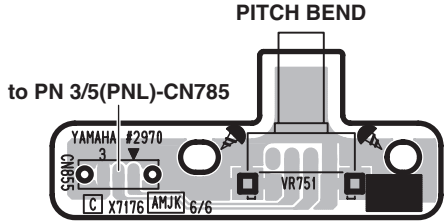
USB (AMJK 3/6): 2NA-WG23590

• DMLCD Circuit Board


#2970
#2992
#2977/#2978
#2982/#2983
C816
C815
C817
CN802
Ceramic capacitor (C815) is soldered between 2 pin and 3 pin of CN802.
Ceramic capacitor (C816) is soldered between 4 pin and 6 pin of CN802.
Ceramic capacitor (C817) is soldered between 3 pin and 4 pin of CN802.
Fix by bond.

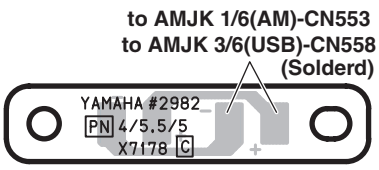
Pattern side

• PB (AMJK 6/6) Circuit Board



Component side

• TWL (PN 4/5, 5/5) Circuit Board
• TWR (PN 4/5, 5/5) Circuit Board

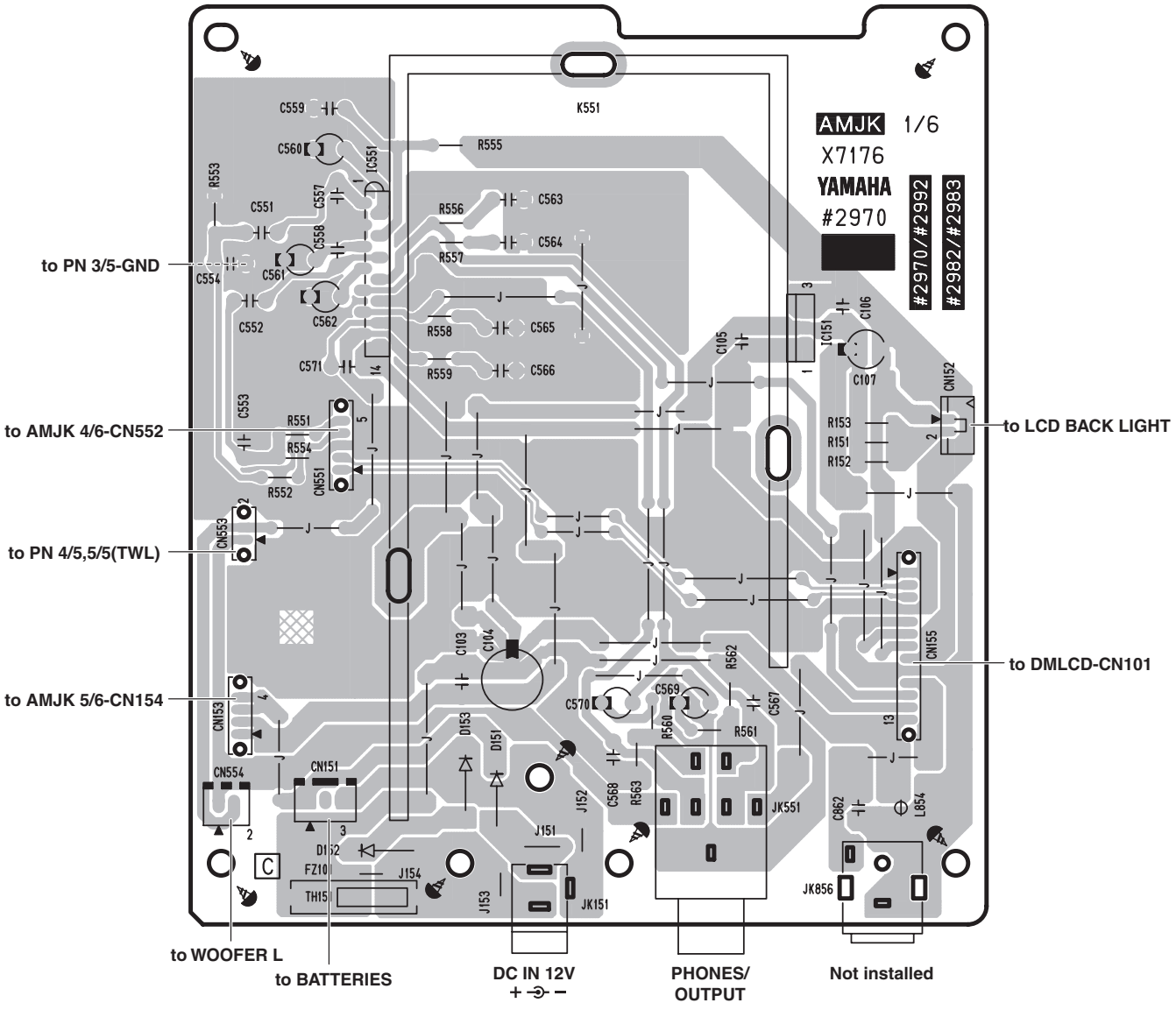


Component side

DMLCD	: 2NA-WG23540
PB (AMJK 6/6)	: 2NA-WG23590
TWL,TWR (PN 4/5, 5/5)	: 2NA-WG23620

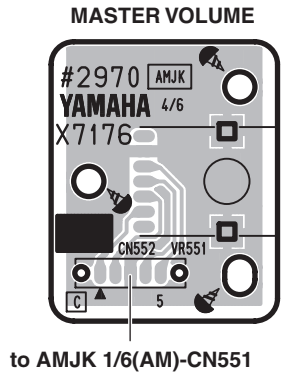
Note: See parts list for details of circuit board component parts.

• AM (AMJK 1/6) Circuit Board



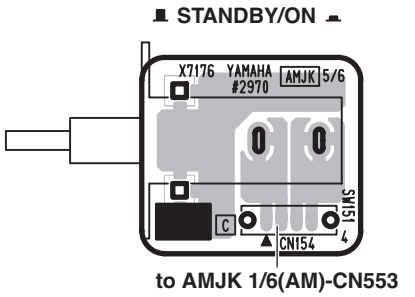
Component side

• AMJK 4/6 Circuit Board



Component side

• AMJK 5/6 Circuit Board

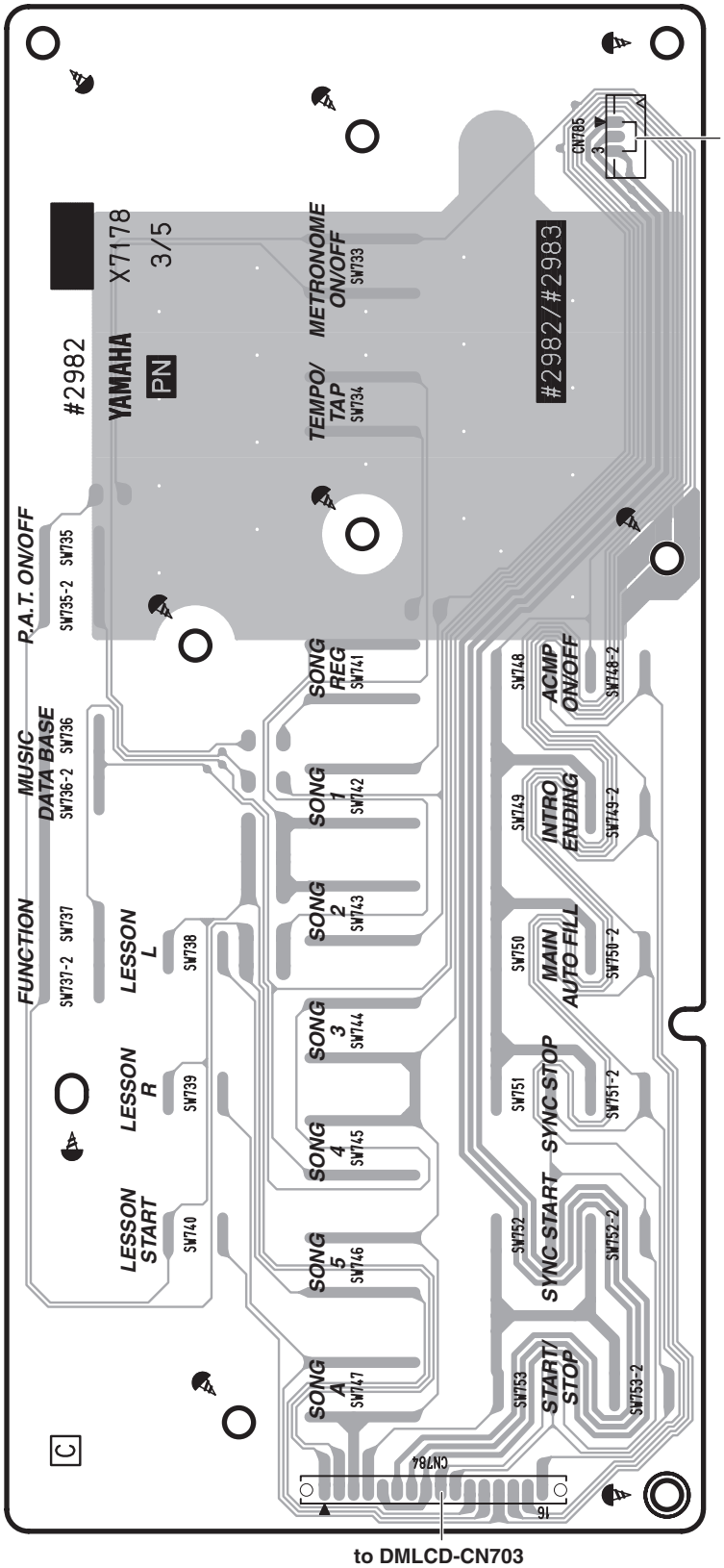


Component side

Note: See parts list for details of circuit board component parts.

AM (AMJK 1/6) : 2NA-WG23590
AMJK 4/6 : 2NA-WG23590
AMJK 5/6 : 2NA-WG23590

• PNL(PN 3/5) Circuit Board



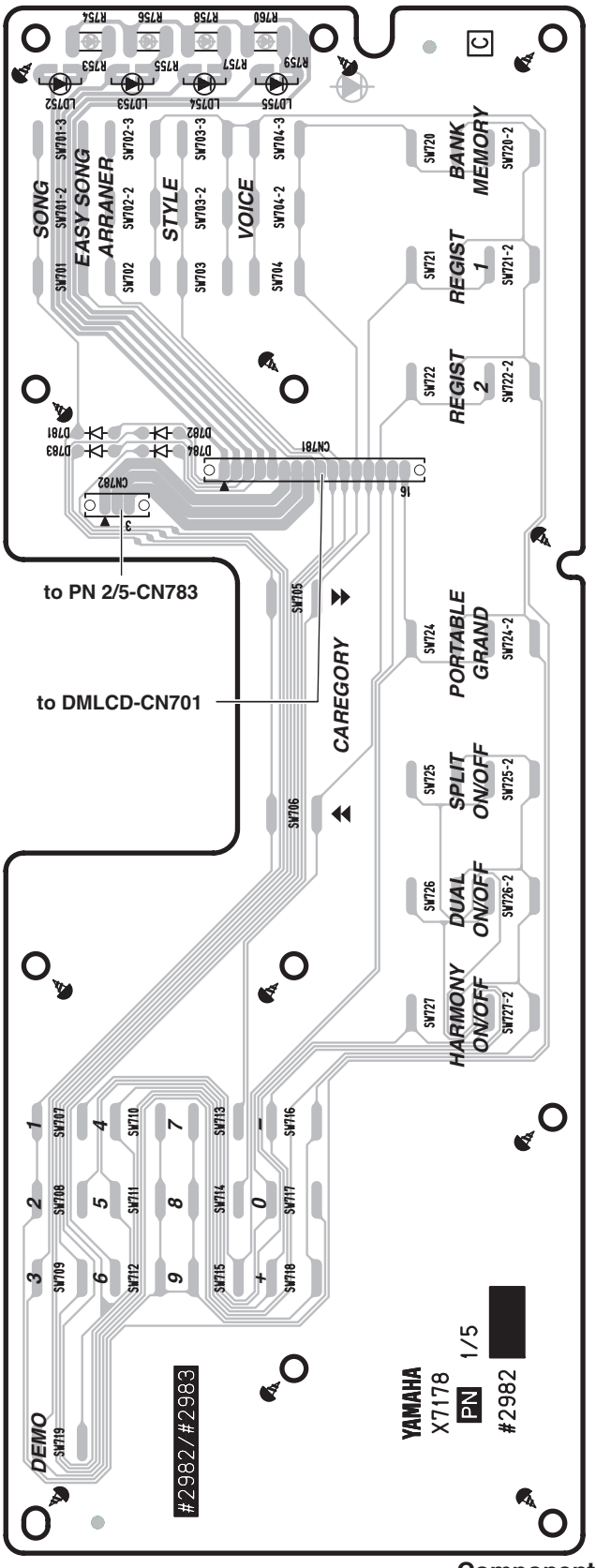
Component side

PNL (PN 3/5): 2NA-WG23620

Note: See parts list for details of circuit board component parts.

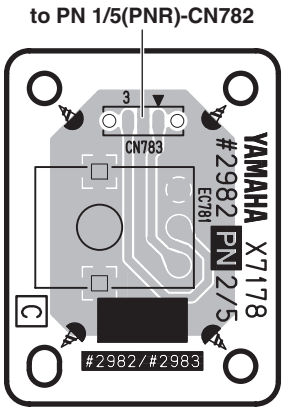
• PNR (PN 1/5) Circuit Board

SCALE:85/100



Component side

• PN 2/5 Circuit Board



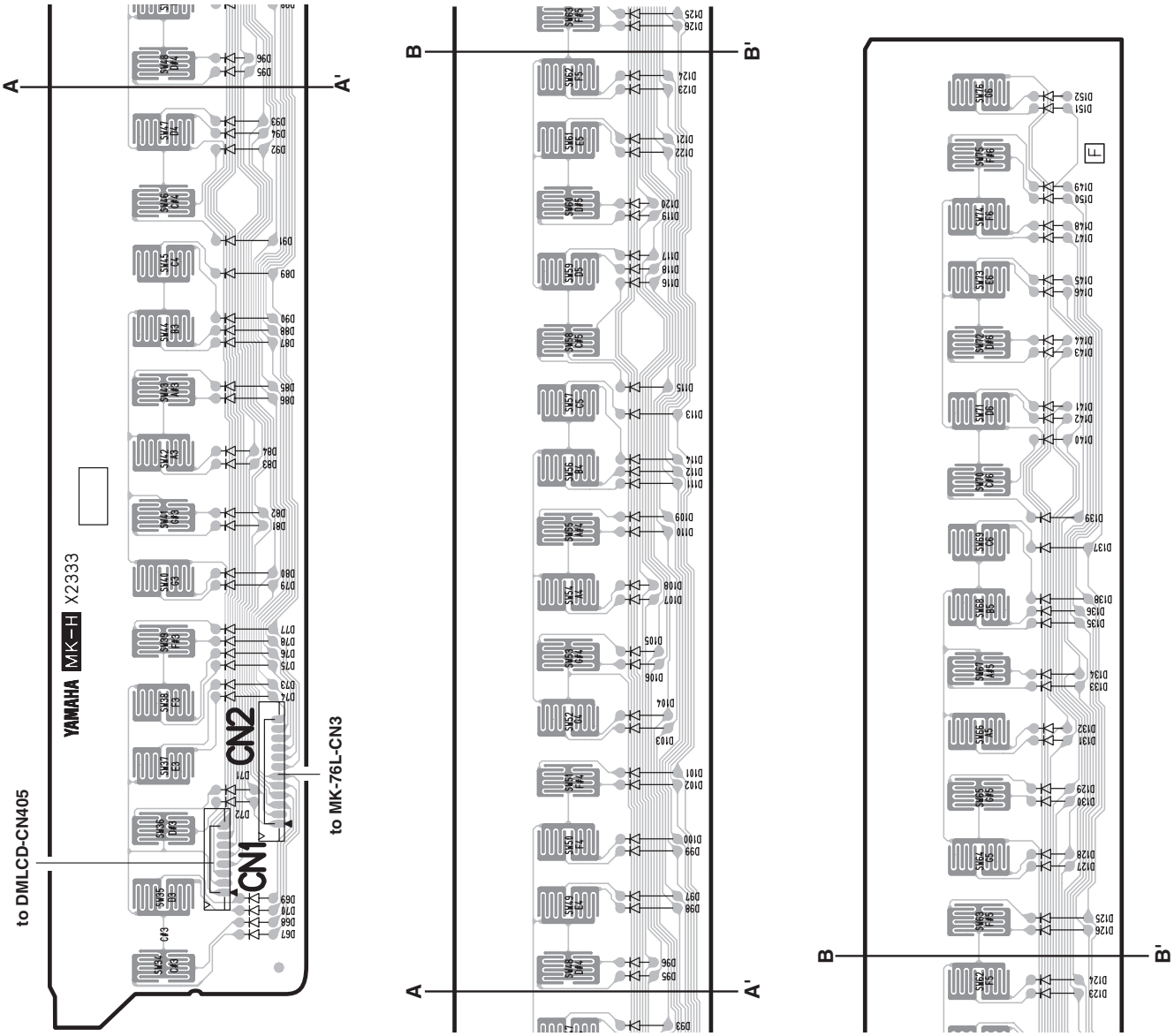
DATA ENTRY

Component side

PNR (PN 1/5) : 2NA-WG23620
PN 2/5 : 2NA-WG23620

Note: See parts list for details of circuit board component parts.

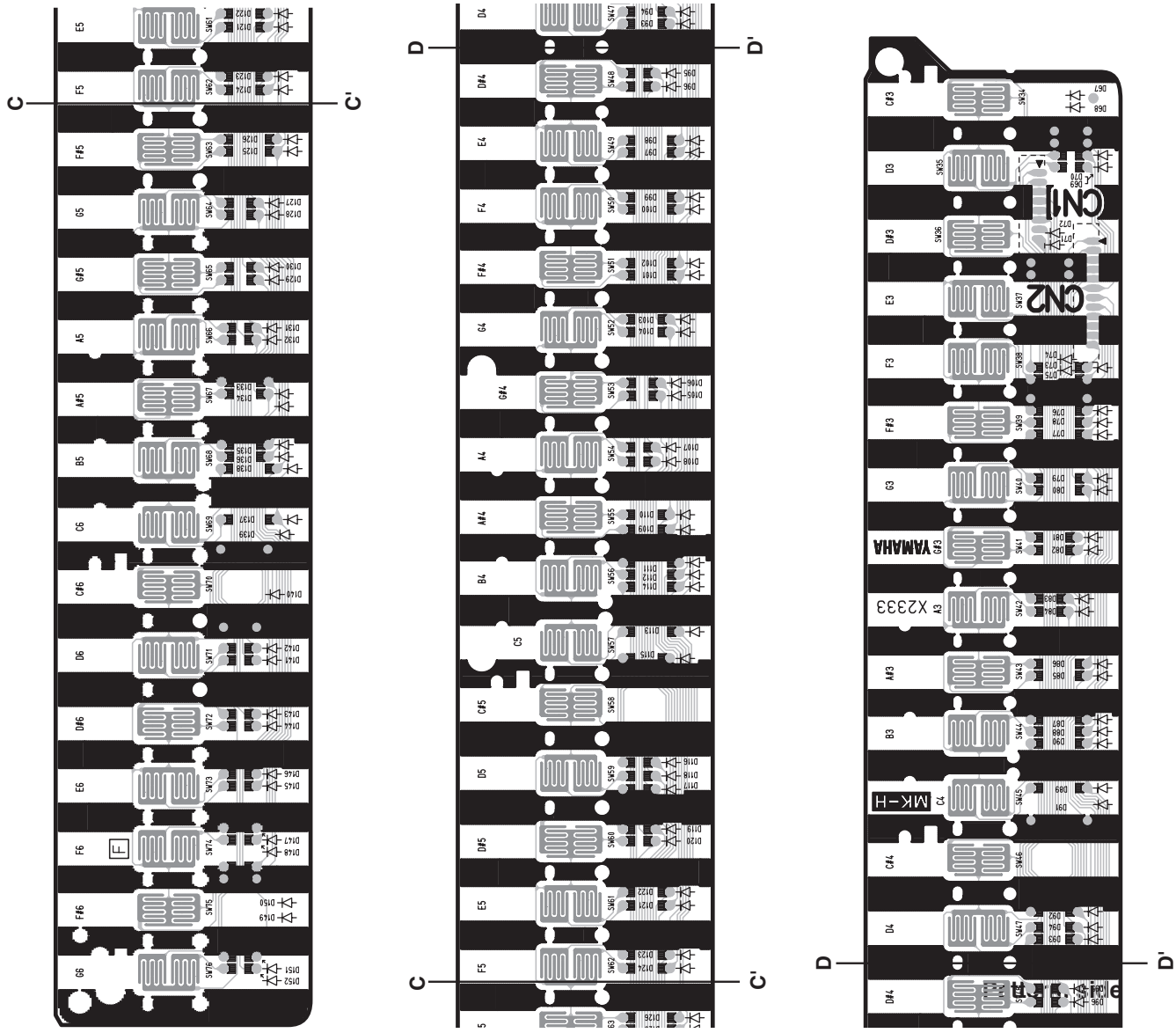
• MK-76H Circuit Board



Component side

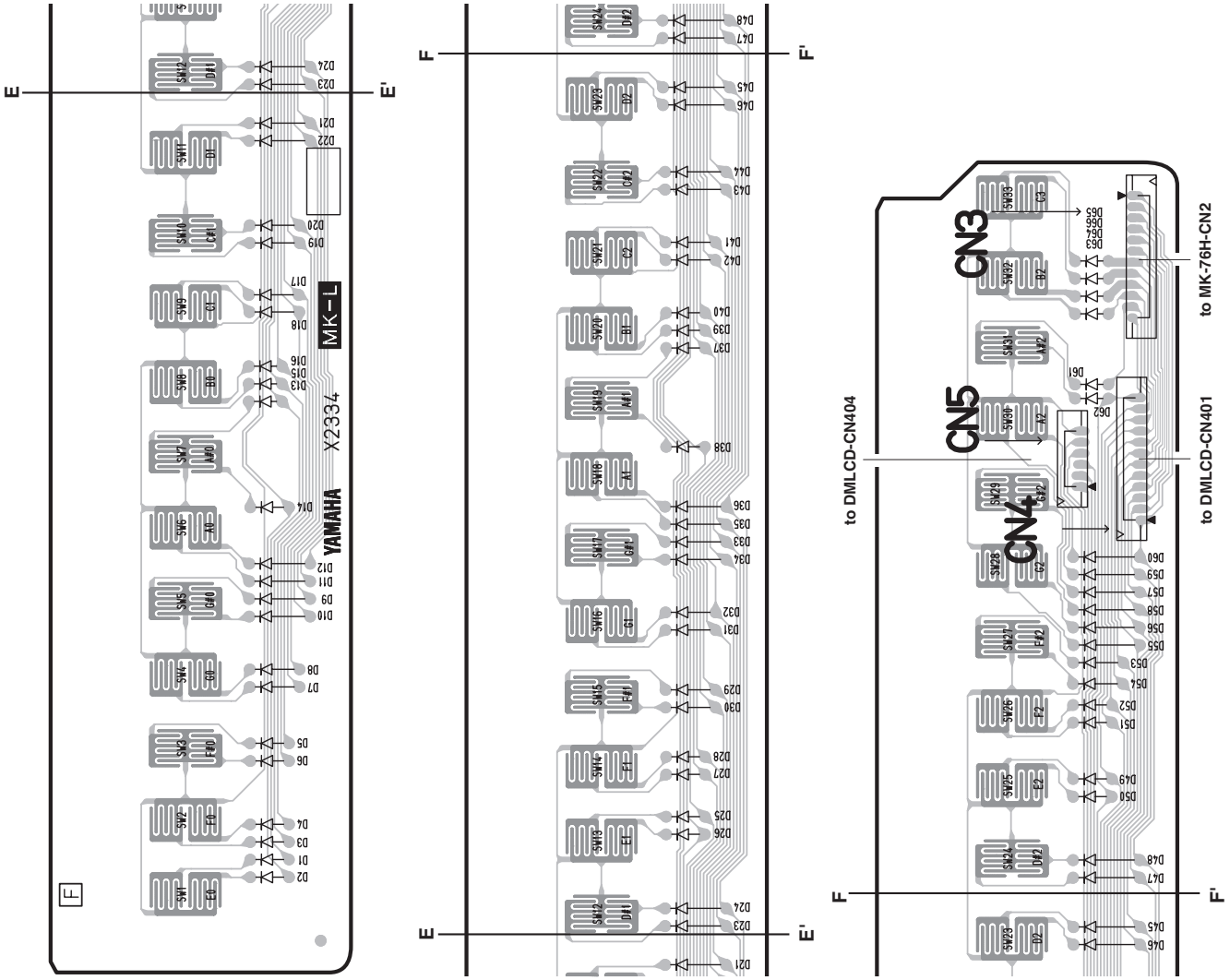
Note: See parts list for details of circuit board component parts.

• MK-76H Circuit Board



Note: See parts list for details of circuit board component parts.

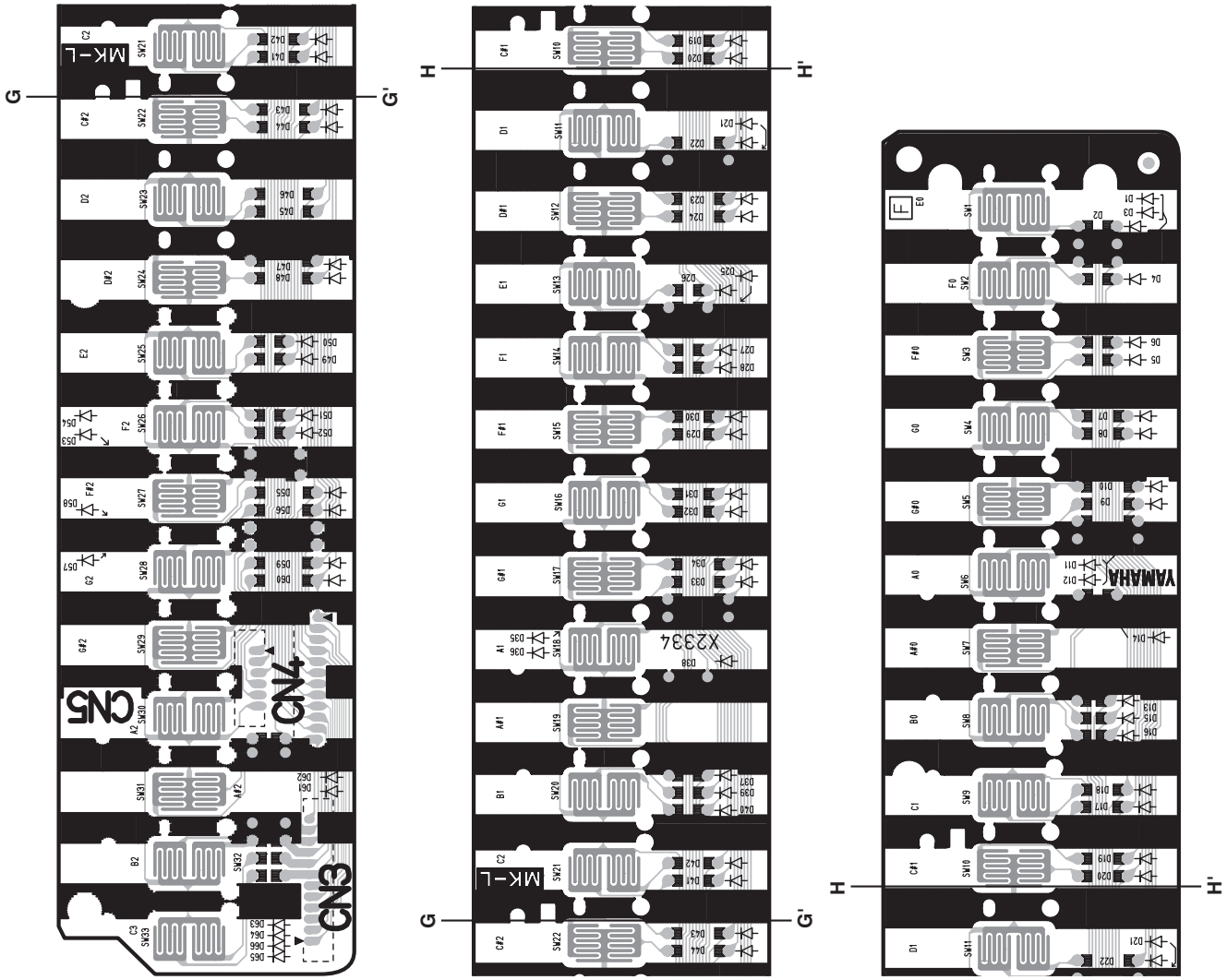
• MK-76L Circuit Board



Component side

Note: See parts list for details of circuit board component parts.

• MK-76L Circuit Board



Patterm side

Note: See parts list for details of circuit board component parts.

■ TEST PROGRAM

*** If you execute the test No.47(Factory Set), then the user's preset data may be lost. Therefore, back up the user's data in advance.**

A. PREPARATION

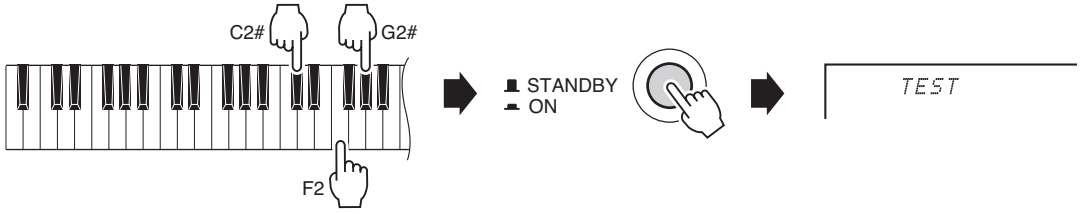
1) PA-5D or PA-51(AC adaptor) is used.
2) Measuring instruments: frequency counter, level meter (with JIS-C filter)
   Note: Connect a stereo plug to the [PHONES/OUTPUT] jack at 33 ohms.
3) Jigs: Foot switch (FC-4 or FC-5), USB cable, USB-MIDI driver(*1)
   PC (Install a USB-MIDI driver(*1) in PC and finish the THROUGH setup.)

   *1 Obtain the USB-MIDI driver from CD-ROM (X7225A00) for DGX-220/YPG-225 or Yamaha official website. (URL>>http://www.yamahapkclub.com)

B. HOW TO ENTER THE TEST PROGRAM

While pressing the C2#, F2 and G2# keys, turn the [STANDBY/ON] switch on.

DGX-220/YPG-225



C. TEST PROCEDURE

1) When the test program is started, "TEST" will be displayed on the LCD.
2) Press the [-] or [+] button of the number buttons to select a test program item.
3) Press the [START/STOP] button to execute the test.

* If the test result is OK, or the test item is completed, press the [START/STOP] button again to return to the test item selection display.

* Press the [-] or [+] button of the number buttons to select the next test program item.

* When the test result is OK, a carsor (_) is added under the first character of the test item name on display.
If the test result is NG, press the [DEMO] button or the lowest (leftmost) white key to return to the test item selection display.

D. TEST PROGRAM LIST (dBu=dBm)

(dBu=dBm)

TEST No.	LCD Display	Test Descriptions, Judgment Criteria
1	001Version	Displays versions. This test program displays ROM(Program) and USB CPU versions. (In case of OK: Prog "XXX",USB "XXX", NG: Prog "Err",USB "Err")
2	002Rom Chk1	Checks the ROM that is connected to the CPU bus. (OK:"Rom OK", NG:"Rom NG") The test results appear on the LCD. Check that the LCD displays "Rom OK".
3	003 Ram Chk1	Checks the RAM that is connected to the CPU bus. (OK:"Ram OK", NG:"Ram NG") The test results appear on the LCD. Check that the LCD displays "Ram OK".

TEST No.	LCD Display	Test Descriptions, Judgment Criteria
6	006 FRomChk1	Checks the flash ROM that is connected to CPU bus. The check result appears on the LCD. Check that the LCD displays "FRom OK". (OK:"FRom OK", NG:"FRom NG")
11	011 TG1 Chk	Outputs the sine wave by changing the channels in sequence from C2 to G4.[32 notes] Check the sound by hearing that there is no noise or abnormal sound. After auto-scaling is finished, individual keys can be played. (If playing two or more keys simultaneously, the first pressed key has priority to make a sound.)
13	013 Pit Chk	Connect the frequency counter to the [PHONES/OUTPUT] jack. (L or R) Sets PAN to Center and produces a signal at 440.14 Hz ± 0.22 Hz. Check that the correct signal is produced.
--	--	Output Level Check (33 ohm load) Connect the level meter(with a JIS-C filter) to the [PHONES/OUTPUT] jack. (L and R) Set the [MASTER VOLUME] at maximum and check the output level. PHONES L : -6.0 dBu PHONES R : -6.0 dBu (dBu=dBm)
--	--	Volume Decline Value Check (33 ohm load) Connect the level meter(with a JIS-C filter) to the [PHONES/OUTPUT] jack. (L and R) Set the [MASTER VOLUME] at minimum and check the output level. PHONES L : less than -70.0 dBu PHONES R : less than -70.0 dBu (dBu=dBm)
14	014 Output R	Connect the level meter (with a JIS-C filter) to the [PHONES/OUTPUT] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz sine wave, PAN=R). PHONES L : less than -55.0 dBu PHONES R : -6.0 dBu
15	015 Output L	Connect the level meter (with a JIS-C filter) to the [PHONES/OUTPUT] jack. (33 ohm load) Set the [MASTER VOLUME] at maximum and check the output level (1 kHz sine wave, PAN=L). PHONES L : -6.0 dBu PHONES R : less than -55.0 dBu
20	020 SW Chk	Checks the switches on the panel. Press the switches on the LCD as instructed. A pre-assigned note is output when the switch is pressed.A rotary encoder is clockwise set up to UP and is counterclockwise set to DOWN. (See P.32 "Table 1".)The check result appears on the LCD when all the switches are pressed as instructed. Check that "SW OK" is displayed. Also, check that no key stick is existed. (OK:"SW OK", NG:"SW NG", When multiple switches are pressed at the same time:"Over Two")
21	021 A.LedChk	Check that all the LEDs on the panel are on.
28	028 LCD On	Check that all LCD dots are on.
29	029 LCD Off	Check that all LCD dots are off.
31	031 PD1 Chk	Connect the foot switch (FC-4 or FC-5) to the [SUSTAIN] jack. Check that the C3 note is output when the [START/STOP] button is pressed while stepping the pedal and the C4 note is output when releasing the pedal. The sound stops when stepping the pedal again. Check that the LCD displays "PD1 OK". (OK:"PD1 OK", NG:"PD1 NG")
33	033 PB Chk	Checks the pitch bend wheel. (First, it checks if the center position of the wheel is correct or not.) Check that the C3 note is output when rotating the [PITCH BEND] wheel to minimum from center and the C4 note is output when rotating it to maximum. (OK:"PB OK", NG:"PB NG", If the center position of the wheel is not correct:"PB C NG")

TEST No.	LCD Display	Test Descriptions, Judgment Criteria
37	037 MIDI Chk	Connect a PC which has installed the driver and main unit USB terminal with a USB cable. Set the through mode on PC and execute the test. Confirm that the C4 note is output and "MIDI OK" is displayed on LCD.
41	041 Rom Chk2	Checks the ROM that is connected to the CPU. The test result appears on the LCD. Check that the LCD displays "Rom OK". It takes about 15 seconds. (OK:"Rom OK", NG:"Rom NG")
42	042 Ram Chk2	Check the RAM that is connected to the CPU. The test results appear on the LCD. Check that the LCD displays "Ram OK". (OK:"Ram OK", NG:"Ram NG")
45	045 FRomChk2	Checks the flash ROM that is connected to CPU bus. The check result appears on the LCD. Check that the LCD displays "FRom OK". It takes about 30 seconds. (OK:"FRom OK", NG:"FRom NG")
47	047 Factory	All backup domains are initialized and it changes into a factory-shipments state when executing this test. (While executing the test: "Fact --", After finishing the test: "Fact End)
48	048 TestExit	Exit from the test program after executing this test.
--	--	Noise Level Check (in the normal mode) (33 ohm load) Connect the level meter(with a JIS-C filter) to the [PHONES/OUTPUT] jack. (L and R) Set the [MASTER VOLUME] at maximum and check that the noise level is within the range below. PHONES L/R: less than -78.0 dBu

* Note: As for the test no.41 - 45, it takes time. If you want to skip them, press the [+/YES] button several times to go to the test no.47 (Factory).

Table 1

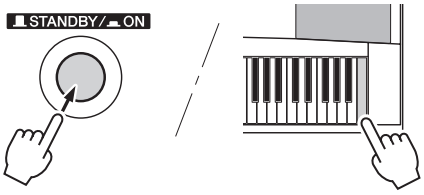
No.	SW Name	Display	Note No.
1	DIAL UP	Dial Up	C2
2	DIAL DOWN	Dial Dwn	C#2
3	P.A.T.	P. A.T.	D2
4	MUSIC DATABASE	M.D.B.	D#2
5	FUNCTION	Function	E2
6	LESSON L	Lesson L	F2
7	LESSON R	Lesson R	F#2
8	LESSON START	LsnStart	G2
9	METRONOME	Metro	G#2
10	TEMPO/TAP	Temp/TAP	A2
11	SONG REC	Song REC	A#2
12	SONG 1	Song 1	B2
13	SONG 2	Song 2	C3
14	SONG 3	Song 3	C#3
15	SONG 4	Song 4	D3
16	SONG 5	Song 5	D#3
17	SONG A	Song A	E3
18	ACMP	ACMP	F3
19	INTRO/ENDING	Intro	F#3
20	MAIN/AUTO FILL	Main/Fil	G3
21	SYNC STOP	S. Stop	G#3
22	SYNC START	S. Start	A3
23	START/STOP	Str/Stp	A#3
24	SONG	Song	B3
25	EASY SONG ARRANGER	E.S.A.	C4
26	STYLE	Style	C#4
27	VOICE	Voice	D4
28	CATEGORY –	Catego –	D#4
29	CATEGORY +	Catego +	E4
30	TENKEY 1	Tenkey 1	F4
31	TENKEY 2	Tenkey 2	F#4
32	TENKEY 3	Tenkey 3	G4
33	TENKEY 4	Tenkey 4	G#4
34	TENKEY 5	Tenkey 5	A4
35	TENKEY 6	Tenkey 6	A#4
36	TENKEY 7	Tenkey 7	B4
37	TENKEY 8	Tenkey 8	C5
38	TENKEY 9	Tenkey 9	C#5
39	TENKEY –	Tenkey –	D5
40	TENKEY 0	Tenkey 0	D#5
41	TENKEY +	Tenkey +	E5
42	BANK/MEMORY	Memory	F5
43	REGIST 1	Regist 1	F#5
44	REGIST 2	Regist 2	G5
45	PORTABLE GRAND	Piano	G#5
46	SPLIT	Split	A5
47	DUAL	Dual	A#5
48	HARMONY	Harmony	B5
49	DEMO	Demo	C6

■ INITIALIZATION

This function erases all backup data in the instrument's flash memory and restores the initial default settings. The following initialization procedures are provided.

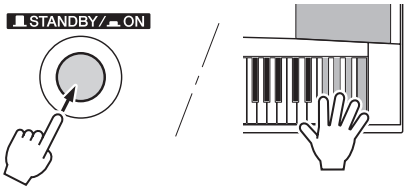
Backup Clear

To clear data backed up to the internal flash memory - panel user setting, registration memory, user songs, style file - turn the power on by pressing the [STANDBY/ON] switch while holding the highest white key on the keyboard.
The backed up data will be erased and the default values restored.



Flash Clear

To clear song data and style files that have been transferred to the internal flash memory from a computer, turn the power on by pressing the [STANDBY/ON] switch while simultaneously holding the highest white key on the keyboard and the three highest black keys.



When you execute the Flash Clear operation, song data you have purchased will also be cleared. Be sure to save data you want to keep to a computer.

■ USER DATA BACKUP

To backup user data to external devices, use the "Musicsoft Downloader (bundled software)".
You can use the Musicsoft Downloader to transfer "Backup Files" including the five User Songs stored on the instrument, to a computer.

List of data that can be backed up

- User Songs
- Style Files
- Registration Memory
- FUNCTION Settings: Tuning, Split Point, Touch Sensitivity, Style Volume, Song Volume, Metronome Volume, Grade, Demo Cancel, Master EQ type

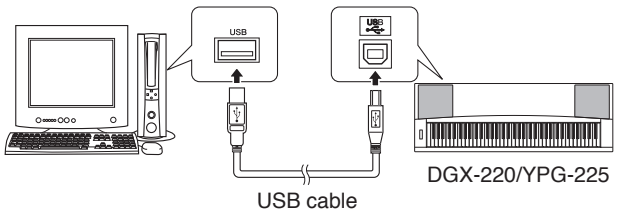
PREPARATION

PC (Personal Computer)
USB Cable (A - B Type)
MIDI-USB Driver *1
Musicsoft Downloader (MSD) *1

*1: Obtain these programs from CD-ROM (X7225A00) of the attachment for DGX-220/YPG-225 or Yamaha official website.

(URL>> http://www.yamahapkclub.com)

Install these software in PC beforehand.



BACKUP PROCEDURE

1. Turn off the power of DGX-220/YPG-225.
2. End all the application software.
3. Connect the DGX-220/YPG-225 to the PC with a USB cable.
4. Turn on the power of DGX-220/YPG-225.
5. Click the Control Panel on PC.
6. Click "USB-MIDI Driver" on the Control Panel to open the dialog box.
7. Remove the check from the check box next the word "Thru ON/OFF" in the dialog box.
8. Start up the Musicsoft Downloader.
9. If you click "Electronic Musical Instruments" in the Musicsoft Downloader display, and then "System Drive", a file named "06PG76.BUP" will appear in the lower right corner of the Musicsoft Downloader display.
   This is the backup file. For details about how to transmit backup file using the Musicsoft Downloader application, refer to the Online help in the application.

NOTE:

* Preset Song data cannot be transmitted from the instrument.

CAUTION:

* We recommend that you use a power adaptor rather than batteries when transferring data. The data can be corrupted if the batteries fail during the transfer.
* Do not rename the backup file on the computer. If you do so, it will not be recognized when transferred to the instrument.

■ MIDI IMPLEMENTATION CHART

YAMAHA [Portable Grand] Date:17-NOV-2005
Model DGX-220/YPG-225 MIDI Implementation Chart Version:1.0

Function...		Transmitted		Recognized	Remarks
Basic	Default	1 - 16		1 - 16	
Channel	Changed	x		x	
Mode	Default	3		3	
	Messages	x		x	
	Altered	**********		x	
Note		0 - 127		0 - 127	
Number :	True voice	**********		0 - 127	
Velocity	Note ON	o 9nH,v=1-127		o 9nH,v=1-127	
	Note OFF	x 9nH,v=0		x	
After	Key's	x		x	
Touch	Ch's	x		x	
Pitch Bend		o 0-24 semi		o 0-24 semi	
Control Change	0,32	o		o	Bank Select
	1,11,84	x	*1	o	
	6,38	o		o	Data Entry
	7,10	o		o	
	64	o		o	Sustain
	71	x	*1	o	Harmonic Content
	72	o		o	Release Time
	73	x	*1	o	Attack Time
	74	x	*1	o	Brightness
	91,93	o		o	Effect Depth
	96-97	x	*1	o	RPN Inc,Dec
	100-101	o		o	RPN LSB,MSB
Prog Change :	True #	o 0 - 127 **********		o 0 - 127	
System Exclusive		o		o	
Common	: Song Pos.	x		x	
	: Song Sel.	x		x	
	: Tune	x		x	
System	: Clock	o		o	
Real Time:	Commands	o		o	
Aux	:All Sound OFF	x		o(120,126,127)	
	:Reset All Cntrls	x		o(121)	
	:Local ON/OFF	x		o(122)	
	:All Notes OFF	x		o(123-125)	
Mes-	:Active Sense	o		o	
sages:	Reset	x		x	

*1 Refer to MIDI DATA FORMAT.

Mode 1 : OMNI ON , POLY Mode 2 : OMNI ON ,MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF,MONO x : No

■ MIDI DATA FORMAT

NOTE:

1 By default (factory settings) the instrument ordinarily functions as a 16-channel multi-timbral tone generator, and incoming data does not affect the panel voices or panel settings. However, the MIDI messages listed below do affect the panel voices, auto accompaniment, and songs.
- *MIDI Master Tuning*
- *System exclusive messages for changing the Reverb Type and Chorus Type.*

2 Messages for these control change numbers cannot be transmitted from the instrument itself. However, they may be transmitted when playing the accompaniment, song or using the Harmony effect.

3 Exclusive

<GM System ON> F0H, 7EH, 7FH, 09H, 01H, F7H
- *This message automatically restores all default settings for the instrument, with the exception of MIDI Master Tuning.*

<MIDI Master Volume> F0H, 7FH, 7FH, 04H, 01H, ll, mm, F7H
- *This message allows the volume of all channels to be changed simultaneously (Universal System Exclusive).*
- *The values of "mm" is used for MIDI Master Volume. (Values for "ll" are ignored.)*

<MIDI Master Tuning> F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mm, ll, cc, F7H
- *This message simultaneously changes the tuning value of all channels.*
- *The values of "mm" and "ll" are used for MIDI Master Tuning.*
- *The default value of "mm" and "ll" are 08H and 00H, respectively. Any values can be used for "n" and "cc".*

<Reverb Type> F0H, 43H, 1nH, 4CH, 02H, 01H, 00H, mmH, llH, F7H
- *mm : Reverb Type MSB*
- *ll : Reverb Type LSB*

Refer to the Effect Map for details.

<Chorus Type> F0H, 43H, 1nH, 4CH, 02H, 01H, 20H, mmH, llH, F7H
- *mm : Chorus Type MSB*
- *ll : Chorus Type LSB*

Refer to the Effect Map for details.

4 When the accompaniment is started, an FAH message is transmitted. When accompaniment is stopped, an FCH message is transmitted. When the clock is set to External, both FAH (accompaniment start) and FCH (accompaniment stop) are recognized.

5 Local ON/OFF

<Local ON> Bn, 7A, 7F
<Local OFF> Bn, 7A, 00
Value for "n" is ignored.

■ Effect map

*When a Type LSB value is received that corresponds to no effect type, a value corresponding to the effect type (coming the closest to the specified value) is automatically set.

*The numbers in parentheses in front of the Effect Type names correspond to the number indicated in the display.

● REVERB

TYPE MSB	TYPE LSB								
	00	01	02	08	16	17	18	19	20
000	No Effect								
001	(01)Hall1				(02)Hall2	(03)Hall3			
002	Room					(04)Room1		(05)Room2	
003	Stage				(06)Stage1	(07)Stage2			
004	Plate				(08)Plate1	(09)Plate2			
005...127	No Effect								

● CHORUS

TYPE MSB	TYPE LSB								
	00	01	02	08	16	17	18	19	20
000...063	No Effect								
064	Thru								
065	Chorus		(02)Chorus2						
066	Celeste					(01)Chorus1			
067	Flanger			(03)Flanger1		(04)Flanger2			
068...127	No Effect								

Portable Grand

DGX-220 / YPG-225

PARTS LIST

■ **CONTENTS**

OVERALL ASSEMBLY 2
LOWER CASE ASSEMBLY 5
KEYBOARD ASSEMBLY 7
ELECTRICAL PARTS 9

Note) DESTINATION ABBREVIATIONS

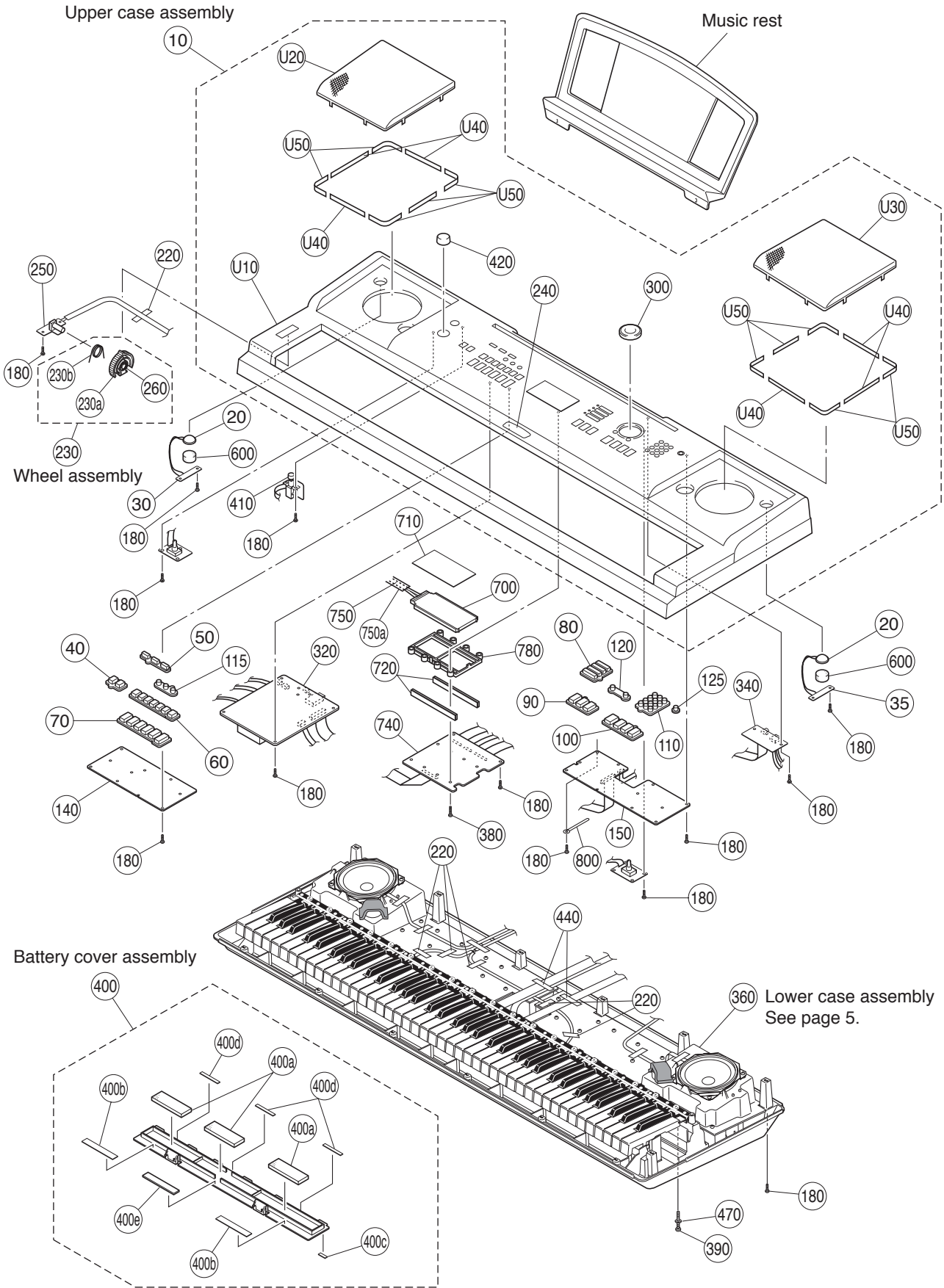
A:	Australian model	M:	South African model
B:	British model	O:	Chinese model
C:	Canadian model	Q:	South-east Asia model
D:	German model	T:	Taiwan model
E:	European model	U:	U.S.A. model
F:	French model	V:	General export model (110V)
H:	North European model	W:	General export model (220V)
I:	Indonesian model	N,X:	General export model
J:	Japanese model	Y:	Export model
K:	Korean model		

■ WARNING

Components having special characteristics are marked ⚠ and must be replaced with parts having specifications equal to those originally installed.

- ■ The numbers in “QTY” shows quantities for each unit.
- ■ The parts with “--” in “Part No.” are not available as spare parts.
- ■ The mark “}” in the REMARKS column means these parts are interchangeable.
- ■ The second letter of the shaded ( ) part number is O, not zero.
- ■ The second letter of the shaded ( ) part number is I, not one.

■ OVERALL ASSEMBLY



	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
			OVERALL ASSEMBLY		総組立	DGX-220/YPG-225		
		--	Overall Assembly		総組立	DGX-220 U,C,W,J,O (WG27900)		
		--	Overall Assembly		総組立	YPG-225 U,C,W (WG27910)		
*	10	**WG279400**	Upper Case Assembly		上ケースAss'y	DGX-220		
*	10	**WG279500**	Upper Case Assembly		上ケースAss'y	YPG-225		
	20	**X0159A00**	Speaker	3.0cm	スピーカ	TWEETER	2	01
*	30	**WG308100**	Circuit Board	TWL(PN 4/5,5/5)	TWLシート	(WG23620)(X7178C0)		
*	35	**WG308200**	Circuit Board	TWR(PN 4/5,5/5)	TWRシート	(WG23620)(X7178C0)		
*	40	**WF835300**	PN Switch	x2	PNスイッチ	METRONOME ON/OFF TEMPO/TAP		
*	50	**WF834900**	PN Switch	x3	PNスイッチ	P.A.T.ON/OFF,FUNCTION, MUSIC DATABASE		
*	60	**WG287600**	PN Switch	x7	PNスイッチ 印刷品	SONG MEMORY(REC,1-5,A)		
*	70	**WF835100**	PN Switch	x6	PNスイッチ	SONG/STYLE(REPEAT&LEARN A-B REPEAT,..,START/STOP)		
*	80	**WG287500**	PN Switch	x4	PNスイッチ 印刷品	SONG,EASY SONG ARRANGER, STYLE,VOICE		
*	90	**WG287900**	PN Switch	x3	PNスイッチ 印刷品	REGIST MEMORY,1,2,BANK		
*	100	**WF835800**	PN Switch	x4	PNスイッチ	PORTABLE GRAND, SPLIT ON/OFF,DUAL ON/OFF, HARMONY ON/OFF		
*	110	**WG287100**	PN Switch	x12	PNスイッチ 印刷品	-,0,+,1-9		
*	115	**WF834800**	PN Switch	x3	PNスイッチ	LESSON(L,R,START)		
*	120	**WG287700**	PN Switch	x2	PNスイッチ 印刷品	CATEGORY(UP,DOWN)		
*	125	**WG283500**	PN Switch	x1	PNスイッチ	DEMO		
*	140	**WG307900**	Circuit Board	PNL(PN 3/5)	PNLシート	(WG23620)(X7178C0)		
*	150	**WG308000**	Circuit Board	PNR(PN 1/5)	PNRシート	(WG23620)(X7178C0)		
	180	**WE774300**	Bind Head Tapping Screw-B	3.0X8 MFZN2W3	Bタイト十BIND		58	01
	220	**VA126100**	Adhesive Tape	12X50	粘着テープ	}	5	03
	220	--	Adhesive Tape	MY7# 12X50	PETテープ	} (WB79380)	5	
	230	**VY793100**	Wheel Assembly	PSR730	ホイールAss'y			04
	230a	**VY750800**	Wheel	PSR730	ホイール	PITCH BEND		03
	230b	**VT440100**	Spring	PSR620	ホイールバネ			03
	240	**V7660600**	Emblem		エンブレム			01
*	250	**WG307400**	Circuit Board	PB(AMJK 6/6)	PBシート	(WG23600)(X7176C0)		
	260	**VE968500**	Grease	G-31KA	グリス			38
	300	**WG455700**	Encoder Knob	BLACK	エンコーダツマミ	DATA ENTRY		
*	320	**WG307200**	Circuit Board	AM(AMJK 1/6)	AMシート	(WG23600)(X7176C0)		
*	340	**WG307300**	Circuit Board	USB(AMJK 3/6)	USBシート	(WG23600)(X7176C0)		
	360	--	Lower Case Assembly		下ケースAss'y	(WG29200)		
	380	**WE987400**	Bind Head Tapping Screw-B	3.0X12 MFZN2W3	Bタイト十BIND		8	01
	390	**WF491000**	Bind Head Tapping Screw-B	3.0X30 MFZN2W3	Bタイト十BIND		5	01
	400	**V9259700**	Battery Cover Assembly	PT	バッテリーカバーAssy			03
	400a	--	Battery Cushion White		バッテリークッション	(V710060)	3	
	400b	--	Cushion	PE	クッション(PE)	(V796870)	2	
	400c	--	Nonwoven Fabric Cloth	15X3X0.5	不織布	(V925980)	6	
	400d	--	Cushion	X8X1	クッション(PE)	(WA10190)	3	
	400e	--	Cushion	0X12X2	クッション(PE)	(WA21920)		
	410	**V7151200**	Push Knob	BLACK	プッシュツマミ クロ	STANDBY/ON		01
	420	**VU432400**	Knob,V	PSR78	Vツマミ	MASTER VOLUME		01
	440	--	Adhesive Tape	12X90	粘着テープ	} (V591240)	2	
	440	--	Adhesive Tape	MY7# 12X90	PETテープ	} (WB79400)	2	
*	470	**WG387800**	Spacer		スペーサー		10	
	600	**WD365700**	Sponge	27	スポンジ		2	01
	700	**WB491100**	Back-lit Assembly	PT	バックライトAss'y			08
*	710	**WF817200**	LCD		液晶ディスプレイ			
	720	**V7838000**	Rubber Connector	ZTT-410	ゴムコネクター		2	03
*	740	**WG306500**	Circuit Board	DMLCD	DMLCDシート	(WG23560)(X7174C0)		
	750	--	Connector Assembly	BL 2P L=70	BL束線	(WC60260)		
	750a	--	Sponge	P	防振スポンジP	(WC60930)	2	
	780	**V8671300**	LCD Holder		LCDホルダー			01
	800	**CB817510**	Cord Binder	S-14B-E	束線止め			03
*		**WG279400**	Upper Case Assembly		上ケースAss'y	DGX-220		
*		**WG279500**	Upper Case Assembly		上ケースAss'y	YPG-225		
	U10	--	Upper Case		上ケース塗装印刷品	DGX-220 (WG27960)		
	U10	--	Upper Case		上ケース塗装印刷品	YPG-225 (WG27970)		
*	U20	**WG454800**	Speaker Grille L	LEFT	SPグリルL塗装品			
*	U30	**WG454900**	Speaker Grille R	RIGHT	SPグリルR塗装品			
*	U40	**WG505500**	Nonwoven Fabric Cloth	90 6 WHITE	不織布SP GRIL		6	

* : New part

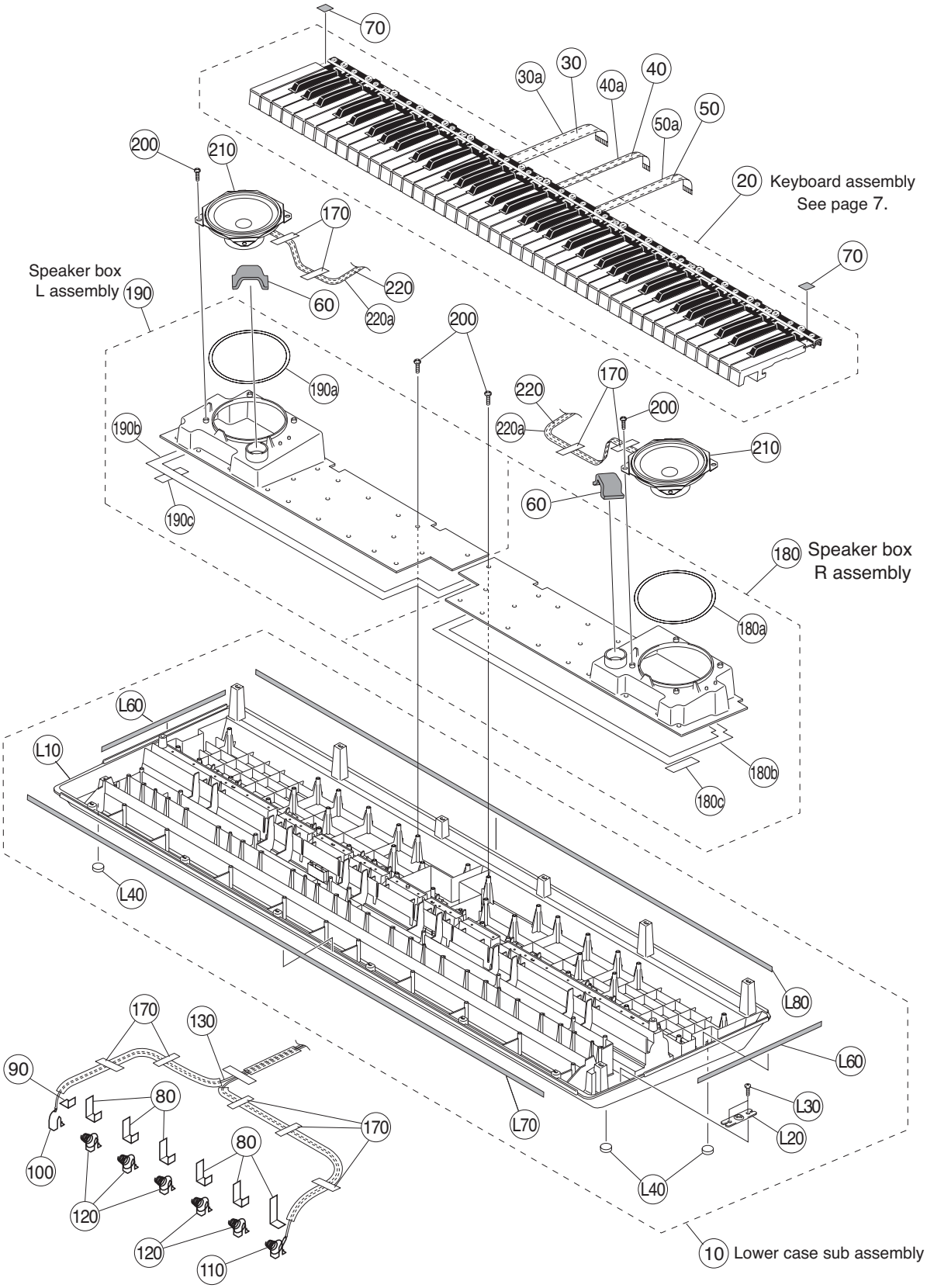
RANK : Japan only

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
*	U50	**WD982400**	Nonwoven Fabric Cloth	72_6_0.35	不織布SPーGRIL		10	
			ACCESSORIES		付属品			
*		**WH249100**	Music Rest		譜面板			
⚠		**V8029000**	AC Adapter	PA-5D J	ACアダプターー	DGX-220 J		
⚠		**WF324900**	AC Adapter	PA-5D CHN	ACアダプターー	DGX-220 O		08
*		**WG280500**	Japanese Guide Sheet		和文シート袋入り	DGX-220 J		
*		**WH324700**	Chinese Guide Sheet		中文シート袋入り	DGX-22O O		
		X7225A00	CD-ROM	DGX ENTRY-H	CDーROM	DGX-220 U,C,W,O		
		X7225A00	CD-ROM	DGX ENTRY-H	CDーROM	YPG-225 U,C,W		
		X7226A00	CD-ROM	DGX ENTRY-H	CDーROM	DGX-220 J		

* : New parts

RANK : Japan only

■ LOWER CASE ASSEMBLY

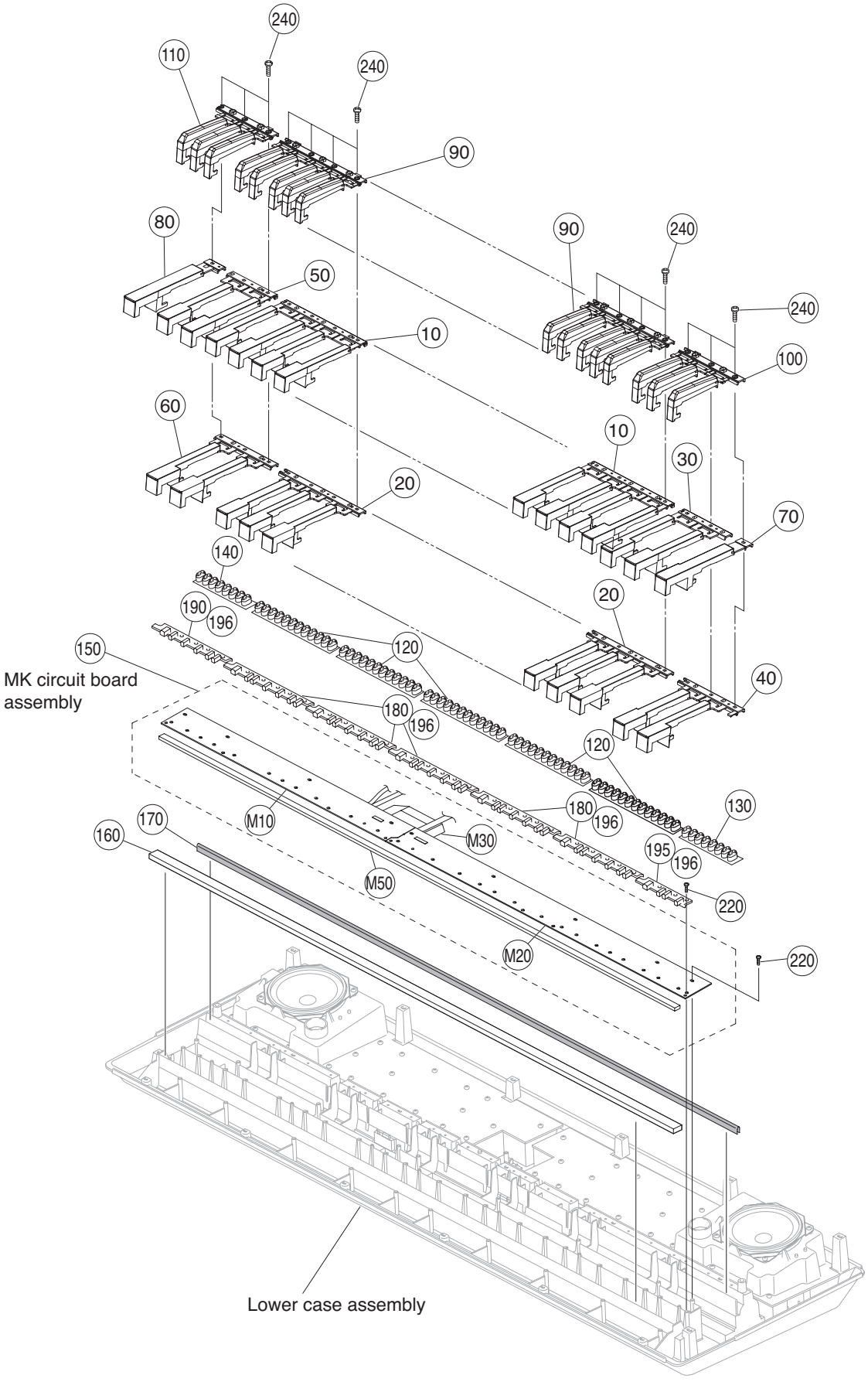


	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
			LOWER CASE ASSEMBLY		下ケースAss'y	DGX-220/YPG-225		
		--	Lower Case Assembly		下ケースAss'y	(WG29200)		
*	10	**WG292100**	Lower Case Sub Assembly		下ケースサブAss'y			
	20	--	Keyboard Assembly	W	16N-E766鍵盤	(V882340)		
	30	**WC601000**	Connector Assembly	MK1 12P L=600	MK1束線			
	30a	--	Sponge	A	防振スポンジA	(WC60730)	2	
*	40	**WC601400**	Connector Assembly	MK4 6P L=600	MK4束線			
	40a	--	Sponge	D	防振スポンジD	(WC60790)	2	
*	50	**WC601500**	Connector Assembly	MK5 8P L=550	MK5束線			
	50a	--	Sponge	E	防振スポンジE	(WC60800)	2	
*	60	**WC620300**	Filter	GLAY	フィルター		2	
	70	--	Nonwoven Fabric Cloth	20X15	不織布	(WC93090)	2	
	80	--	Nonwoven Fabric Cloth	40X13X0.5	不織布	(V771130)	6	
	90	--	Nonwoven Fabric Cloth	13X13X0.5	不織布	(V771140)		
	100	**V7060500**	Contact Spring		接点バネ(十)			01
	110	**V7060700**	Contact Spring		接点バネ(一)			01
	120	**V7060200**	Spring Terminal		接点バネ		5	01
	130	--	Connector Assembly	BAT 2P	BAT束線	(V873560)		
	170	**VA126100**	Adhesive Tape	12X50	粘着テープ		9	03
	170	--	Adhesive Tape	MY7# 12X50	PETテープ	(WB79380)	9	
	180	**V8757500**	Speaker Box R Assembly	RIGHT	SPボックスRAss'y			
	180a	--	Packing	PE	パッキンSP	(VZ16540)		
	180b	--	Cushion	1600X15X1.0	クッション(PE)	(V901030)		
	180c	--	Cushion	60X15X1.0	クッション(PE)	(V956150)		
	190	**V8757600**	Speaker Box L Assembly	LEFT	SPボックスLAss'y			
	190a	--	Packing	SP PE	パッキンSP	(VZ16540)		
	190b	--	Cushion	1600X15X1.0	クッション(PE)	(V901030)		
	190c	--	Cushion	60X15X1.0	クッション(PE)	(V956150)		
	200	**WE974500**	Bind Head Tapping Screw-B	4.0X10 MFZN2W3	Bタイト十BIND		48	01
	210	**X2549A00**	Speaker	12.0cm 4 ohm 8W	スピーカ	WOOFER	2	05
	220	--	Connector Assembly	SPL AWG#24	SPL束線	(WG32410)	2	
	220a	--	Sponge	Z	防振スポンジZ	(WG33010)	2	
*		**WG292100**	Lower Case Sub Assembly		下ケースサブAss'y			
	L10	--	Lower Case		下ケース成形品	(WG29230)		
	L20	**VI104400**	Holder		脚取り付け金具天津製		4	
	L30	**WE774300**	Bind Head Tapping Screw-B	3.0X8 MFZN2W3	Bタイト十BIND		8	01
	L40	**CB043750**	Foot	T1.6	ゴム脚		5	01
	L60	--	Cushion	273X15X1.0	クッション(PE)	(WD55510)	2	
	L70	--	Cushion	1117X15X1.0	クッション(PE)	(WD55520)		
	L80	--	Cushion	1142X15X1.0	クッション(PE)	(WD55530)		

* : New parts

RANK : Japan only

■ KEYBOARD ASSEMBLY



REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
		KEYBOARD ASSEMBLY		16N-E76鍵盤	DGX-220/YPG-225		
	--	Keyboard Assembly	16N-E76	16N-E76鍵盤	(V882340)		
10	V7380300	White Keys	16N-P CEGB	白鍵CEGB-P		5	02
20	V7380400	White Keys	16N-P DFA	白鍵DFA-P		5	02
30	V8678600	White Keys	16N-P CE	白鍵CE-P			01
40	V8678700	White Keys	16N-P DF	白鍵DF-P			01
50	V8678900	White Keys	16N-P GB	白鍵GB-P			01
60	V8679000	White Keys	16N-P FA	白鍵FA-P			01
70	V8665900	White Key	16N-P G	白鍵G-P			01
80	V8665500	White Key	16N-P E	白鍵E-P			01
90	VZ271700	Black Key	16N	黒鍵		5	06
100	V3413400	Black Key	16N 76#H	黒鍵76H			05
110	V3413500	Black Key	16N 76#L	黒鍵76L			05
120	V3413600	Rubber Contact	16N-2M OCT 2M	接点ゴム16N2M		5	04
130	V3413700	Rubber Contact	16N-2M 76H 2M	接点ゴム16N2M	C6-G6		04
140	V3413800	Rubber Contact	16N-2M 76L 2M	接点ゴム16N2M	E0-B0		04
150	--	MK Circuit Board Assembly	16N2M E76-P P2	MKシートAss'y	(V868640)		
160	V3414000	Felt 76L	1036 11 WHITE	フェルト76L			03
170	V8696600	Rubber Support	16N E76P	サポートラバー			04
180	V7380900	Key Guide	16N	キーガイド		5	
190	V8698900	Key Guide 76L	16N-P	キーガイド76L			04
195	V8699000	Key Guide 76H	16N-P	キーガイド76H			04
196	--	Grease	G-1006Y	グリス	(V627430)		
220	WE774200	Bind Head Tapping Screw-B	3.0X10 MFZN2W3	Bタイト十BIND		30	01
240	WF492000	Bind Head Tapping Screw-P	3.0X20 MFZN2W3	Pタイト十BIND		26	
	--	MK Circuit Board Assembly	16N2M E76-P P2	MKシートAss'y	(V868640)		
M10	V8687400	Circuit Board	MK-76L 16N2M	シート76L	(V868760)(X2334F0)		07
M20	V8687200	Circuit Board	MK-76H 16N2M	シート76H	(V868750)(X2333F0)		07
M30	V8696300	Connector Assembly	05	中継束線			01
M50	V3413900	Felt 76U	1036 5 WHITE	フェルト76U			02

* : New parts

RANK : Japan only

■ ELECTRICAL PARTS

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
			ELECTRICAL PARTS		電気部品	DGX-220/YPG-225		
*		**WG307200**	Circuit Board	AM(AMJK 1/6)	AMシート	(WG23600)(X7176C0)		
		--	Circuit Board	AMJK 4/6	AMJK 4／6シート	(WG23600)(X7176C0)		
		--	Circuit Board	AMJK 5/6	AMJK 5／6シート	(WG23600)(X7176C0)		
*		**WG307400**	Circuit Board	PB(AMJK 6/6)	PBシート	(WG23600)(X7176C0)		
*		**WG307300**	Circuit Board	USB(AMJK 3/6)	USBシート	(WG23600)(X7176C0)		
*		**WG306500**	Circuit Board	DMLCD	DMLCDシート	(WG23560)(X7174C0)		
		V8687200	Circuit Board	MK-76H 16N2M	シート76H	(V868750)(X2333F0)		07
		V8687400	Circuit Board	MK-76L 16N2M	シート76L	(V868760)(X2334F0)		07
*		**WG307900**	Circuit Board	PNL(PN 3/5)	PNLシート	(WG23620)(X7178C0)		
		--	Circuit Board	PN 2/5	PN 2／5シート	(WG23620)(X7178C0)		
*		**WG308000**	Circuit Board	PNR(PN 1/5)	PNRシート	(WG23620)(X7178C0)		
*		**WG308100**	Circuit Board	TWL(PN 4/5,5/5)	TWLシート	(WG23620)(X7178C0)		
*		**WG308200**	Circuit Board	TWR(PN 4/5,5/5)	TWRシート	(WG23620)(X7178C0)		
*		**WG307200**	Circuit Board	AM(AMJK 1/6)	AMシート	(WG23600)(X7176C0)		
		--	Circuit Board	AMJK 4/6	AMJK 4／6シート	(WG23600)(X7176C0)		
		--	Circuit Board	AMJK 5/6	AMJK 5／6シート	(WG23600)(X7176C0)		
*		**WG307400**	Circuit Board	PB(AMJK 6/6)	PBシート	(WG23600)(X7176C0)		
*		**WG307300**	Circuit Board	USB(AMJK 3/6)	USBシート	(WG23600)(X7176C0)		
		WE774300	Bind Head Tapping Screw-B	3.0X8 MFZN2W3	Bタイト十BIND		3	01
		VA078900	Jumper Wire	0.55 TIN	ジャンパー線		30	
	C103	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z TATET	半導体セラコン			01
	C104	**V3510100**	Electrolytic Cap.	1000.0 25.0V TP	ケミコン			
	C104	**UR849100**	Electrolytic Cap.	1000 25.0V RX TP	ケミコン			01
	C105	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z TATET	半導体セラコン			01
	C106	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z TATET	半導体セラコン			01
	C107	**UR828220**	Electrolytic Cap.	220.00 10.0V RX TP	ケミコン			01
	C107	**V3507400**	Electrolytic Cap.	220.00 10.0V TP	ケミコン			01
*	C551	**V5516600**	Mylar Capacitor	1.0000 50V J	マイラーコン			
	C551	**VE327200**	Monolithic Mylar Capacitor	1.0 50V J RX TP	積層マイラーコン			02
	C551	**VU838100**	Monolithic Mylar Capacitor	ECQ-V1H105JL3	積層マイラーコン			
*	C552	**V5516600**	Mylar Capacitor	1.0000 50V J	マイラーコン			
	C552	**VE327200**	Monolithic Mylar Capacitor	1.0 50V J RX TP	積層マイラーコン			02
	C552	**VU838100**	Monolithic Mylar Capacitor	ECQ-V1H105JL3	積層マイラーコン			
	C557	**FG612470**	Ceramic Capacitor-B	470P 50V K RX TP	セラコン（B）			01
	C557	**VR025800**	Ceramic Capacitor	470P 63V K FORMING	セラコン2B 天津製			
	C558	**FG612470**	Ceramic Capacitor-B	470P 50V K RX TP	セラコン（B）			01
	C558	**VR025800**	Ceramic Capacitor	470P 63V K FORMING	セラコン2B 天津製			
	C559	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z TATET	半導体セラコン			01
	C560	**UR838100**	Electrolytic Cap.	100.00 16.0V RX TP	ケミコン			01
	C560	**V3508500**	Electrolytic Cap.	100.00 16.0V TP	ケミコン			
	C561	**UR827330**	Electrolytic Cap.	33.00 10.0V RX TP	ケミコン			01
*	C561	**V3508300**	Electrolytic Cap.	33.00 16.0V TP	ケミコン			
	C562	**UR867100**	Electrolytic Cap.	10.00 50.0V RX TP	ケミコン			01
*	C562	**V3512300**	Electrolytic Cap.	10.00 50.0V TP	ケミコン			
	C563	**UA654470**	Mylar Capacitor	0.0470 50V J RX TP	マイラーコン			01
	C563	**--**	Mylar Capacitor	0.0470 50V J	マイラーコン	(V551500)		
	C563	**--**	Mylar Capacitor	0.0470 100V K TE	マイラーコン	(VS88420)		
	C564	**UA654470**	Mylar Capacitor	0.0470 50V J RX TP	マイラーコン			01
	C564	**--**	Mylar Capacitor	0.0470 50V J	マイラーコン	(V551500)		
	C564	**--**	Mylar Capacitor	0.0470 100V K TE	マイラーコン	(VS88420)		
	C565	**UA654470**	Mylar Capacitor	0.0470 50V J RX TP	マイラーコン			01
	C565	**--**	Mylar Capacitor	0.0470 50V J	マイラーコン	(V551500)		
	C565	**--**	Mylar Capacitor	0.0470 100V K TE	マイラーコン	(VS88420)		
	C566	**UA654470**	Mylar Capacitor	0.0470 50V J RX TP	マイラーコン			01
	C566	**--**	Mylar Capacitor	0.0470 50V J	マイラーコン	(V551500)		
	C566	**--**	Mylar Capacitor	0.0470 100V K TE	マイラーコン	(VS88420)		
	C569	**UR837470**	Electrolytic Cap.	47.00 16.0V RX TP	ケミコン			01
	C569	**V3508400**	Electrolytic Cap.	47.00 16.0V TP	ケミコン			
	C570	**UR837470**	Electrolytic Cap.	47.00 16.0V RX TP	ケミコン			01
	C570	**V3508400**	Electrolytic Cap.	47.00 16.0V TP	ケミコン			
	C571	**VC694800**	Semiconductive Cera. Cap.	0.1000 25V Z TATET	半導体セラコン			01
	C855	**FG612100**	Ceramic Cap.-B	100P 50V K RX TP	セラコンB			01
	C855	**VR025000**	Ceramic Capacitor	100P 63V K FORMING	セラコン2B 天津製			
	CN151	**LB918030**	Base Post Connector	XH 3P TE	ベースツキポスト			01
	CN152	**VK024600**	Wire Trap	52147 2P TE	ワイヤートラップ			01
	CN153	**VI878200**	Cable Holder	51048 4P TE	ケーブルホルダー			01
*	CN153	**VY668400**	Cable Holder	51048 4P TE	ケーブルホルダー天津			
	CN154	**VI878200**	Cable Holder	51048 4P TE	ケーブルホルダー			01

* : New part

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	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
*	CN154	VY668400	Cable Holder	51048 4P TE	ケーブルホルダー天津			
	CN155	VI879100	Cable Holder	51048 13P TE	ケーブルホルダー			01
	CN155	--	Cable Holder	51048 13P TE	ケーブルホルダー天津	(VY66900)		
	CN551	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN551	VZ341700	Cable Holder	51048 5P TE	ケーブルホルダー天津			
	CN552	VI878300	Cable Holder	51048 5P TE	ケーブルホルダー			01
	CN552	VZ341700	Cable Holder	51048 5P TE	ケーブルホルダー天津			
	CN553	VI878000	Cable Holder	51048 2P TE	ケーブルホルダー			01
	CN553	VY668300	Cable Holder	51048 2P TE	ケーブルホルダー天津			
	CN554	LB918020	Base Post Connector	XH 2P TE	ベーススツキポスト			01
	CN557	LB918020	Base Post Connector	XH 2P TE	ベーススツキポスト			01
	CN558	VI878000	Cable Holder	51048 2P TE	ケーブルホルダー			01
	CN558	VY668300	Cable Holder	51048 2P TE	ケーブルホルダー天津			
	CN854	VI878700	Cable Holder	51048 9P TE	ケーブルホルダー			01
	CN854	VZ341900	Cable Holder	51048 9P TE	ケーブルホルダー天津			
	CN855	VI878100	Cable Holder	51048 3P TE	ケーブルホルダー			01
	CN855	VZ341600	Cable Holder	51048 3P TE	ケーブルホルダー天津			
⚠	D151	V8603100	Diode	2A02G-01 X0 JI	ダイオード			
⚠	D151	VV731400	Diode	2A02-05 X0	ダイオード			01
	D152	WB880900	Diode	10EDA40-TA1B2 26	ダイオード			01
	D153	WB880900	Diode	10EDA40-TA1B2 26	ダイオード			01
	IC151	X6980A00	IC	BA60BC0T	IC	REGULATOR +6V 1.0A		
	IC551	XY209A00	IC	LA4625	IC	POWER AMP 13.5W		05
	J151	VA078900	Jumper Wire	0.55 TIN	ジャンパー線			
	-153	VA078900	Jumper Wire	0.55 TIN	ジャンパー線			
	J851	VA078900	Jumper Wire	0.55 TIN	ジャンパー線			
⚠	JK151	LB302260	Connector	HEC0470-01-630	電源コネクタ	DC IN 12V		02
⚠	JK151	V6557600	Connector	HTJ-020-05AZ	電源コネクタ			04
	JK551	LB101870	Phone Jack	JACK YKB21-5006	ホーンコネクタ	PHONES/OUTPUT		03
	JK551	VV943300	Phone Jack	HTJ064-04A	ホーンコネクタ			02
	JK854	VC687500	Phone Jack	JACK YKB21-5014	ホーンコネクタ（黒）	SUSTAIN		01
	JK854	WE245200	Phone Jack	JY-6314-01-020	ホーンコネクタ（黒）			
	JK855	V6802600	Jack, USB	USB 4P SE	USBジャック	USB		02
	K551	--	Heat Sink		放熱板	(WF87700)		
	L852	V7634400	Coil	BD-FL20-03 TATEJI	コイル 20UH			
	L852	VB835000	Coil	FL05RD200AT TATETE	コイル 20U			01
	L852	VT279200	Coil	DX001-20UH TATEJI	コイル 20U 天津			
	L853	V7634400	Coil	BD-FL20-03 TATEJI	コイル 20UH			
	L853	VB835000	Coil	FL05RD200AT TATETE	コイル 20U			01
	L853	VT279200	Coil	DX001-20UH TATEJI	コイル 20U 天津			
	R151	V2548300	Carbon Resistor	180.0 1/6J 26TP	カーボン抵抗			
	R152	V2548200	Carbon Resistor	150.0 1/6J 26TP	カーボン抵抗			
	R551	V2550400	Carbon Resistor	10.0K 1/6J 26TP	カーボン抵抗			
	R552	V2550400	Carbon Resistor	10.0K 1/6J 26TP	カーボン抵抗			
	R553	V2549500	Carbon Resistor	1.8K 1/6 J 26TP	カーボン抵抗			
	R554	V2549500	Carbon Resistor	1.8K 1/6 J 26TP	カーボン抵抗			
	R555	V2550400	Carbon Resistor	10.0K 1/6J 26TP	カーボン抵抗			
	R556	WD556700	Flame Proof C. Resistor	2.2 1/4 J TE-26	不燃化カーボン抵抗			01
	-559	WD556700	Flame Proof C. Resistor	2.2 1/4 J TE-26	不燃化カーボン抵抗			01
	R560	V2548000	Carbon Resistor	100.0 1/6J 26TP	カーボン抵抗			
	R561	V2548000	Carbon Resistor	100.0 1/6J 26TP	カーボン抵抗			
	R562	V2548600	Carbon Resistor	330.0 1/6J 26TP	カーボン抵抗			
	R563	V2548600	Carbon Resistor	330.0 1/6J 26TP	カーボン抵抗			
	R817	V2547300	Carbon Resistor	27.0 1/6J 26TP	カーボン抵抗			
	R818	V2547300	Carbon Resistor	27.0 1/6J 26TP	カーボン抵抗			
	R861	V2549200	Carbon Resistor	1.0K 1/6 J 26TP	カーボン抵抗			
⚠	SW151	VY980400	Push Switch	SDDLB15700 J,UC,CE	プッシュSW	STANDBY/ON		03
⚠	TH151	V8132800	Fuse	MF-R185-AP	マルチヒューズ			02
⚠	TH151	VU847300	Poly Switch	RUEF185 1.85A 30V	ポリスイッチ			03
	VR551	WC709800	Rotary Variable Resistor	A 5.0K XV014111YGP	二連ロータリーVR	MASTER VOLUME		02
	VR751	VZ486300	Rotary Variable Resistor	B10K EVJ05DF20B14	ロータリーVR	PITCH BEND		03
	WH153	--	Connector Assembly	STB2 NX26AWG	STB2束線	(WG33270)		
	H153a	--	Sponge	U	防振スポンジU	(WG32980)	2	
	WH155	--	Connector Assembly	AMDM2 NX26AWG	AMDM2束線	(WG34290)		
	H155a	--	Sponge	4	防振スポンジ4	(WG34370)	2	
	WH551	--	Connector Assembly	VR3 NX26AWG	VR3束線	(WG33260)		
	H551a	--	Sponge	T	防振スポンジT	(WG32970)	2	
	WH553	--	Connector Assembly	TW4 NX26AWG	TW3束線	(WG34270)		
	H553a	--	Sponge	3	防振スポンジ3	(WG34350)	2	
	WH558	--	Connector Assembly	TW2 NX26AWG	TW3束線	(WG34270)		

* : New parts

RANK : Japan only

REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
H558a	--	Sponge	1	防振スポンジ1	(WG33500)	2	
WH560	--	Wiring GND	UL2008P NX26A	GND線材	(WH31900)		
WH854	--	Connector Assembly	JK4 NX26AWG	JK4束線	(WH47210)		
WH855	--	Connector Assembly	PB2 NX26AWG	PB2束線	(WG33150)		
WH856	--	Connector Assembly	GND3	GND3線材	(WH47240)		
WH857	--	Connector Assembly	PLD	PLD束線	(WH48240)		
WH858	--	Connector Assembly	JK5	JK5束線	(WH47220)		
*	**WG306500**	Circuit Board	DMLCD	DMLCDシート	(WG23560)(X7174C0)		
C101	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C102	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C103	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C104	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C105	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C106	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C107	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C108	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C109	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C110	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C111	**US063100**	Ceramic Capacitor-B (chip)	1000P 50V K RECT.	チップセラ（B）			01
C112	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-114	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C201	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-205	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C207	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-216	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C301	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-304	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C305	**UF028100**	Electrolytic Cap. (chip)	100 10V	チップケミコン			01
C306	**US062220**	Ceramic Capacitor-SL(chip)	220P 50V J RECT.	チップセラ（SL）			01
C307	**US063470**	Ceramic Capacitor-B (chip)	4700P 50V K RECT.	チップセラ（B）			01
C308	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C309	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C310	**US061220**	Ceramic Capacitor-CH(chip)	22P 50V J RECT.	チップセラ（CH）			01
C311	**US061220**	Ceramic Capacitor-CH(chip)	22P 50V J RECT.	チップセラ（CH）			01
C312	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-326	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C327	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C328	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C329	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-332	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C401	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C402	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C403	**US061470**	Ceramic Capacitor-CH(chip)	47P 50V J RECT.	チップセラ（CH）			01
-416	**US061470**	Ceramic Capacitor-CH(chip)	47P 50V J RECT.	チップセラ（CH）			01
C501	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C502	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C503	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C504	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C505	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C506	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C507	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K RECT.	チップセラ（B）			
C508	**US063150**	Ceramic Capacitor-B (chip)	1500P 50V K RECT.	チップセラ（B）			
C509	**US062560**	Ceramic Capacitor-SL(chip)	560P 50V J RECT.	チップセラ（SL）			
-512	**US062560**	Ceramic Capacitor-SL(chip)	560P 50V J RECT.	チップセラ（SL）			
C514	**UF066100**	Electrolytic Cap. (chip)	1 50V	チップケミコン			
C515	**UF066100**	Electrolytic Cap. (chip)	1 50V	チップケミコン			
C516	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C517	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C518	**UF028100**	Electrolytic Cap. (chip)	100 10V	チップケミコン			01
C519	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C601	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
-604	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
C605	**UF037100**	Electrolytic Cap. (chip)	10 16V	チップケミコン			01
C701	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
-716	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C717	**US061470**	Ceramic Capacitor-CH(chip)	47P 50V J RECT.	チップセラ（CH）			01
C718	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
-723	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
C724	**US061470**	Ceramic Capacitor-CH(chip)	47P 50V J RECT.	チップセラ（CH）			01

* : New part

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	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	C725	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
	C801	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	C802	**US063100**	Ceramic Capacitor-B (chip)	1000P 50V K RECT.	チップセラ（B）			01
	C804	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	C805	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
	C806	**US061220**	Ceramic Capacitor-CH(chip)	22P 50V J RECT.	チップセラ（CH）			01
	C807	**US061220**	Ceramic Capacitor-CH(chip)	22P 50V J RECT.	チップセラ（CH）			01
	C808	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	C809	**UF028100**	Electrolytic Cap. (chip)	100 10V	チップケミコン			01
	C810	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	C812	**US062100**	Ceramic Capacitor-SL(chip)	100P 50V J RECT.	チップセラ（SL）			01
*	C815	**VR027500**	Ceramic Capacitor-SL	27P 63V J FORM	セラコンSL			
*	-817	**VR027500**	Ceramic Capacitor-SL	27P 63V J FORM	セラコンSL			
	C901	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	-950	**US145100**	Ceramic Capacitor-F (chip)	0.1000 25V Z RECT.	チップセラ（F）			01
	CN101	**VK025700**	Wire Trap	52147 13P TE	ワイヤートラップ			01
	CN401	**VK025600**	Wire Trap	52147 12P TE	ワイヤートラップ			01
	CN404	**VF728300**	Wire Trap	52147 6P TE	ワイヤートラップ			01
	CN405	**VK025200**	Wire Trap	52147 8P TE	ワイヤートラップ			01
	CN701	**VJ861600**	Wire Trap	52147 16P TE	ワイヤートラップ			01
	CN703	**VJ861600**	Wire Trap	52147 16P TE	ワイヤートラップ			01
	CN802	**VK025300**	Wire Trap	52147 9P TE	ワイヤートラップ			01
	CN803	**VB389800**	Base Pin	PH 2P TE	ベーススポスト			01
	D701	**VT332900**	Diode	1SS355 TE-17 TP	ダイオード			01
	D804	**V2376600**	Diode	RB500V-40 TAPING	ダイオード			01
	-807	**V2376600**	Diode	RB500V-40 TAPING	ダイオード			01
	IC101	**X6959A00**	IC	RH5RZ50CA-T1-F	IC	REGULATOR +5V		
	IC102	**X5889A00**	IC	BA33BC0FP	IC	REGULATOR +3.3V		03
	IC103	**X3679A00**	IC	RH5RZ25CA-T1-F	IC	REGULATOR +2.5V		03
*	IC203	**X7319100**	IC	MX23L6415TC-90G	IC	MASK ROM		
	IC204	**X2726A00**	IC	GLT440L16P-40TC	IC	DRAM 4M		05
	IC204	**X6504A00**	IC	M11L416256SA-35TG	IC	DRAM 4M		05
*	IC204	**X6504B00**	IC	M11L416256SA-35TG	IC	DRAM 4M		
	IC206	**X2310A00**	IC	MX29LV400BTC-70G	IC	FLASH ROM 4M		06
	IC206	**X7130A00**	IC	MX29LV400CBTC-70G	IC	FLASH ROM 4M		04
	IC207	**X5647A00**	IC	SN74LV32APWR	IC	OR		01
	IC301	**X6055A00**	IC	YMW767-VTZ	IC	CPU+XG		10
	IC302	**X4374A00**	IC	S-80136ANMC-JCVT2G	IC	RESET		
	IC302	**X5888A00**	IC	BD45365G	IC			01
	IC401	**X7284A00**	IC	SN74LV138APWR	IC	DECODER		01
	IC402	**X7284A00**	IC	SN74LV138APWR	IC	DECODER		01
	IC501	**X6040A00**	IC	AK4385ET	IC	D/A CONVERTER		03
	IC502	**X7300A00**	IC	BA4510F-E2	IC	OPAMP		
	IC601	**X3148A00**	IC	NT3881DFG-01	IC	LCD DRIVER		05
	IC802	**X5186100**	IC	M38K07M4L-307HP	IC	CPU		10
	L501	**VY657200**	Chip Inductance	600 BK1608HM601-T	チップインダクタ			01
	L801	**VY657200**	Chip Inductance	600 BK1608HM601-T	チップインダクタ			01
*	L803	**WH469300**	Coil	DLP31SN12ML2L	コモンモードコイル			
	R206	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
	R208	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	R210	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
	R211	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
	R212	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
	R213	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	-220	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	R301	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
	R304	**RD359100**	Carbon Resistor (chip)	1.0M 63M J RECT.	チップ抵抗			01
	R305	**RD355470**	Carbon Resistor (chip)	470.0 63M J RECT.	チップ抵抗			01
	R306	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
	R307	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	R308	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
	R309	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
	R310	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	R311	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
	R312	**RD354470**	Carbon Resistor (chip)	47.0 63M J RECT.	チップ抵抗			01
	R313	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
	R314	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
	R315	**RD354470**	Carbon Resistor (chip)	47.0 63M J RECT.	チップ抵抗			01
	R316	**RD354470**	Carbon Resistor (chip)	47.0 63M J RECT.	チップ抵抗			01
	R401	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01

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REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
R402	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
R501	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R503	**RD356470**	Carbon Resistor (chip)	4.7K 63M J RECT.	チップ抵抗			01
-514	**RD356470**	Carbon Resistor (chip)	4.7K 63M J RECT.	チップ抵抗			01
R515	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
R516	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
R517	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R518	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R601	**RD356150**	Carbon Resistor (chip)	1.5K 63M J RECT.	チップ抵抗			01
R602	**RD355220**	Carbon Resistor (chip)	220.0 63M J RECT.	チップ抵抗			01
R603	**RD354680**	Carbon Resistor (chip)	68.0 63M J RECT.	チップ抵抗			01
R604	**RF457910**	Carbon Resistor (chip)	91.0K D RECT.	チップ抵抗			
R605	**RD356220**	Carbon Resistor (chip)	2.2K 63M J RECT.	チップ抵抗			01
-609	**RD356220**	Carbon Resistor (chip)	2.2K 63M J RECT.	チップ抵抗			01
R610	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
R701	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
-704	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R705	**RD357330**	Carbon Resistor (chip)	33.0K 63M J RECT.	チップ抵抗			01
-712	**RD357330**	Carbon Resistor (chip)	33.0K 63M J RECT.	チップ抵抗			01
R713	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
-722	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R723	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R724	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R726	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R729	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
-732	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R737	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
-745	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R747	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
-754	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R756	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R759	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R801	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R802	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R803	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R806	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
-809	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
R810	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R813	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R814	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R815	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R816	**RD356150**	Carbon Resistor (chip)	1.5K 63M J RECT.	チップ抵抗			01
R819	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
R820	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R821	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
R822	**RD356100**	Carbon Resistor (chip)	1.0K 63M J RECT.	チップ抵抗			01
R823	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R824	**RD356270**	Carbon Resistor (chip)	2.7K 63M J RECT.	チップ抵抗			01
R825	**RD356220**	Carbon Resistor (chip)	2.2K 63M J RECT.	チップ抵抗			01
R826	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R827	**RD357100**	Carbon Resistor (chip)	10.0K 63M J RECT.	チップ抵抗			01
R828	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R829	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
R830	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R831	**RD357470**	Carbon Resistor (chip)	47.0K 63M J RECT.	チップ抵抗			01
R832	**RD350000**	Carbon Resistor (chip)	0 63M J RECT.	チップ抵抗			01
R833	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
R834	**RD358100**	Carbon Resistor (chip)	100.0K 63M J RECT.	チップ抵抗			01
R837	**RD355100**	Carbon Resistor (chip)	100.0 63M J RECT.	チップ抵抗			01
RA401	**RE045100**	Resistor Array	100X4	抵抗アレイ			01
-403	**RE045100**	Resistor Array	100X4	抵抗アレイ			01
RA404	**RE046100**	Resistor Array	1KX4	抵抗アレイ			01
-406	**RE046100**	Resistor Array	1KX4	抵抗アレイ			01
RA407	**RE047100**	Resistor Array	10KX4	抵抗アレイ			01
-409	**RE047100**	Resistor Array	10KX4	抵抗アレイ			01
TH601	**V9140600**	Thermistor (chip)	ERTJ1VT152J 1.5K	チップサーミスタ			
TR701	**WB123200**	Transistor Array	IMB10A T110	トランジスタアレイ			05
-704	**WB123200**	Transistor Array	IMB10A T110	トランジスタアレイ			05
TR705	**VY677600**	Digital Transistor	DTC123JKA TP	デジタルトランジスタ			01
TR801	**VV556500**	Transistor	2SA1037AK Q,R,S TP	トランジスタ			01

∗ : New part

RANK : Japan only

	REF NO.	PART NO.	DESCRIPTION		部品名	REMARKS	QTY	RANK
	TR802	**VV556400**	Transistor	2SC2412K Q,R,S TP	トランジスタ			01
	X301	**WE194400**	Quartz Crystal Unit	16.9344M HC-49S-SM	水晶振動子			01
	X801	**V4093500**	Quartz Crystal Unit	6M SMD-49	水晶振動子			03
	X801	**WG138100**	Quartz Crystal Unit	6.0000M HC-49S-SMD	水晶振動子			
		V8687200	Circuit Board	MK-76H 16N2M	シート76H	(V868750)(X2333F0)		07
	10	**VQ769500**	Masking Tape	W=15	マスキングテープ			
	CN01	**VK025200**	Wire Trap	52147 8P TE	ワイヤートラップ			01
	CN02	**VK025600**	Wire Trap	52147 12P TE	ワイヤートラップ			01
	D067	**VB941200**	Diode	1SS133, 1S176	ダイオード			01
	-152	**VB941200**	Diode	1SS133, 1S176	ダイオード			01
		V8687400	Circuit Board	MK-76L 16N2M	シート76L	(V868760)(X2334F0)		07
	10	**VQ769500**	Masking Tape	W=15	マスキングテープ			
	CN03	**VK025600**	Wire Trap	52147 12P TE	ワイヤートラップ			01
	CN04	**VK025600**	Wire Trap	52147 12P TE	ワイヤートラップ			01
	CN05	**VF728300**	Wire Trap	52147 6P TE	ワイヤートラップ			01
	D001	**VB941200**	Diode	1SS133, 1S176	ダイオード			01
	-066	**VB941200**	Diode	1SS133, 1S176	ダイオード			01
*		**WG307900**	Circuit Board	PNL(PN 3/5)	PNLシート	(WG23620)(X7178C0)		
		--	Circuit Board	PN 2/5	PN 2／5シート	(WG23620)(X7178C0)		
*		**WG308000**	Circuit Board	PNR(PN 1/5)	PNRシート	(WG23620)(X7178C0)		
*		**WG308100**	Circuit Board	TWL(PN 4/5,5/5)	TWLシート	(WG23620)(X7178C0)		
*		**WG308200**	Circuit Board	TWR(PN 4/5,5/5)	TWRシート	(WG23620)(X7178C0)		
	CN781	**VI879400**	Cable Holder	51048 16P TE	ケーブルホルダー			01
	CN781	**VY669100**	Cable Holder	51048 16P TE	ケーブルホルダー天津			
	CN782	**VI878100**	Cable Holder	51048 3P TE	ケーブルホルダー			01
	CN782	**VZ341600**	Cable Holder	51048 3P TE	ケーブルホルダー天津			
	CN783	**VI878100**	Cable Holder	51048 3P TE	ケーブルホルダー			01
	CN783	**VZ341600**	Cable Holder	51048 3P TE	ケーブルホルダー天津			
	CN784	**VI879400**	Cable Holder	51048 16P TE	ケーブルホルダー			01
	CN784	**VY669100**	Cable Holder	51048 16P TE	ケーブルホルダー天津			
	CN785	**VK024700**	Wire Trap	52147 3P TE	ワイヤートラップ			01
	D781	**VB941200**	Diode	1SS133,1SS176 TE	ダイオード			01
	D781	**VV437800**	Diode	1N4148(DO-34)	ダイオード 天津製			
	D782	**VB941200**	Diode	1SS133,1SS176 TE	ダイオード			01
	D782	**VV437800**	Diode	1N4148(DO-34)	ダイオード 天津製			
	D783	**VB941200**	Diode	1SS133,1SS176 TE	ダイオード			01
	D783	**VV437800**	Diode	1N4148(DO-34)	ダイオード 天津製			
	D784	**VB941200**	Diode	1SS133,1SS176 TE	ダイオード			01
	D784	**VV437800**	Diode	1N4148(DO-34)	ダイオード 天津製			
	EC781	**VU481300**	Encoder	REB161 PVB 15F	16形エンコーダ			03
*	LD752	**WG913000**	LED	BL-S4537 RED	LED	SONG		
*	LD753	**WG913000**	LED	BL-S4537 RED	LED	EASY SONG ARRANGER		
*	LD754	**WG913000**	LED	BL-S4537 RED	LED	STYLE		
*	LD755	**WG913000**	LED	BL-S4537 RED	LED	VOICE		
	R753	**V2547900**	Carbon Resistor	82.0 1/6J 26TP	カーボン抵抗			
	R755	**V2547900**	Carbon Resistor	82.0 1/6J 26TP	カーボン抵抗			
	R757	**V2547900**	Carbon Resistor	82.0 1/6J 26TP	カーボン抵抗			
	R759	**V2547900**	Carbon Resistor	82.0 1/6J 26TP	カーボン抵抗			
	WH781	**--**	Connector Assembly	PN3 NX26AWG	PN3束線	(WG33190)		
	H781a	**--**	Sponge	M	防振スポンジM	(WG32900)	2	
	WH782	**--**	Connector Assembly	ENC NX26AWG	ENC束線	(WG33130)		
	H782a	**--**	Sponge	G	防振スポンジG	(WG32840)	2	
	WH784	**--**	Connector Assembly	PN4 NX26AWG	PN4束線	(WG33200)		
	H784a	**--**	Sponge	N	防振スポンジN	(WG32910)	2	
		X2549A00	Speaker	12.0cm 4 ohm 8W	スピーカ	WOOFER	2	05
		X0159A00	Speaker	3.0cm	スピーカ	TWEETER	2	01
*		**WF817200**	LCD		液晶ディスプレイ			
		WB491100	Back-lit Assembly	PT	バックライトAss'y			08

* : New parts

RANK : Japan only

■ DGX-220/YPG-225 OVERALL CIRCUIT DIAGRAM (DMLCD)

DMLCD

LCD DRIVER
IC601
ML9040A-B01GA
NT3881DFG-01

LCD
LD601
DD2185

RESET
IC5004
S-80135CNMC-JCV

CPU+XG
IC301
YMW767-VTZ

USB CPU
IC802
M38K07M4L-307HP

4M DRAM
IC204
M5M51V4260E-60TS-W

16M DRAM
IC206
GL7160A-60-45TC

4M FLASH ROM
IC206
MX29LV400BTC-70

64M MASK ROM (PROG/WAVE)
(IC201)
+3.3V (MR27112B0QL-XXX)
(IC202)
(TC58FVM7B2AFT65)
(MX29LV640BT-70)
(IC203)
(TC58FVM6B2ATG-65)
(MX23L6415TC-80)

ADC
IC801
ADC08S022CIMT

DAC
IC501
AK4395ET

OP AMP
IC503
BA4510F-E2

DECODER
IC401
SN74LV138APWR

LED DRIVER
IC701
TR704 IMB10A
TR703 IMB10A
TR702 IMB10A
TR701 IMB10A

REGULATOR +5V
IC101
RH5RZ50CA-T1-F

REGULATOR +3.3V
IC102
BA33BC0FP

REGULATOR +2.5V
IC103
RH5RZ25CA-T1

NC

to PNL(PN 3/5) CN-784
<Page2 B-6>

to PNR(PN 1/5) CN-781
<Page2 B-2>

to AM(AMJK 1/6) CN-155
<Page2 J-7>

to USB(AMJK 3/6)
<Page 2 H-8>

to USB(AMJK 3/6) CN-854
<Page2 H-9>

to MK-76L CN-4
<Page2 G-4>

NC

NC

to MK-76L CN-5
<Page2 G-5>

to MK-76H CN-1
<Page2 G-3>

28CC1-2001002838 ⚠2

Not installed

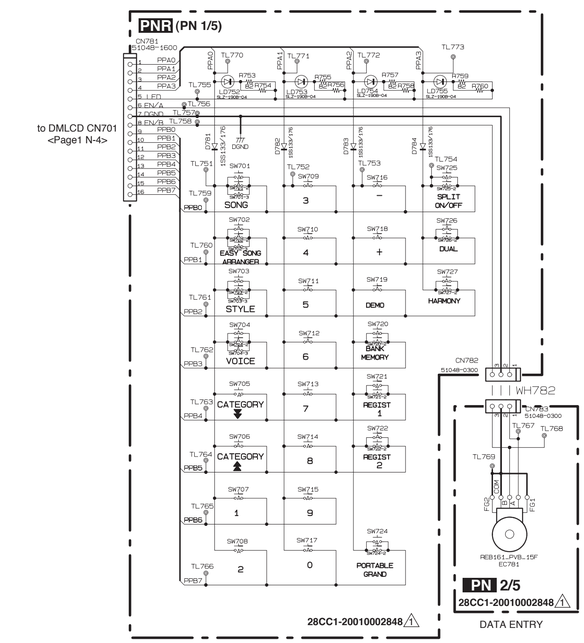
（セ）：Ceramic Capacitor

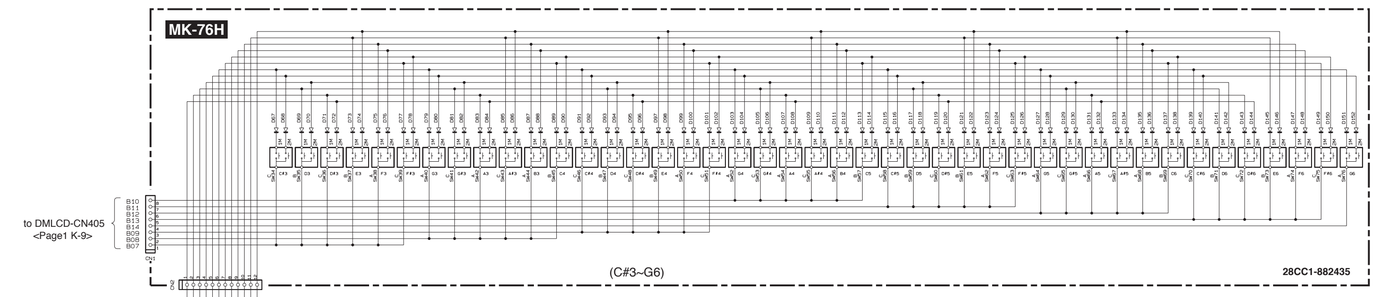
■ WARNING
Components having special characteristics are marked ⚠ and must be replaced with parts having specification equal to those originally installed.

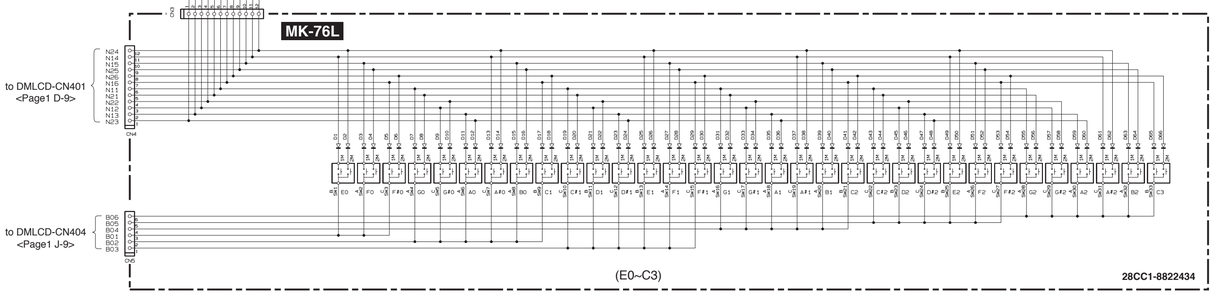
Note: See Parts list for details of circuit board component parts.

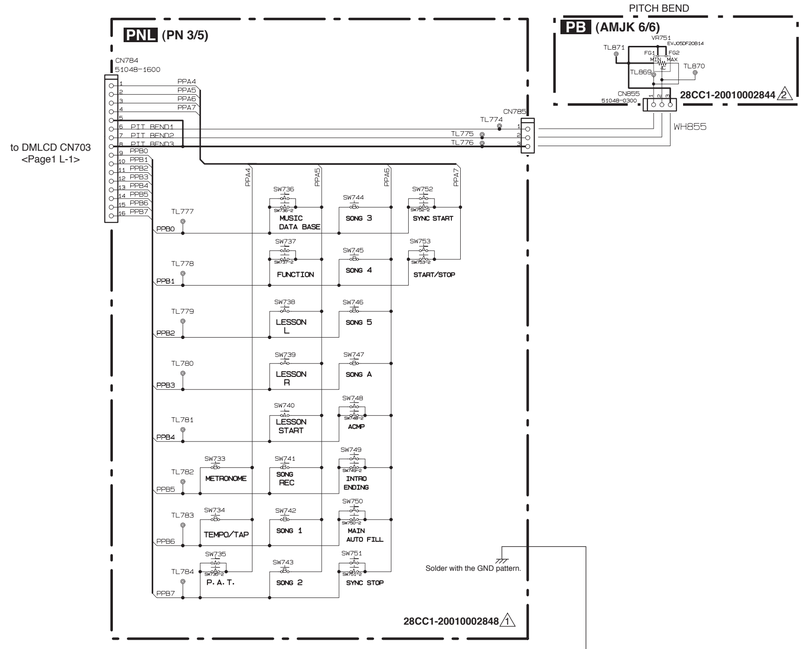
- **RH5RZ50CA-T1-F** (X6959A00) REGULATOR +5V
  DMLCD:IC101
  1. GND
  2. INPUT
  3. OUTPUT
- **BA33BC0FP** (X5889A00) REGULATOR +3.3V
  DMLCD: IC102
  1. INPUT
  2. GND
  3. OUTPUT
- **RH5RZ25CA-T1-F** (X3679A00) REGULATOR +2.5V
  DMLCD:IC103
  1. GND
  2. INPUT
  3. OUTPUT

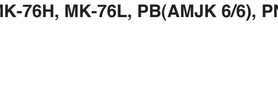
■ DGX-220/YPG-225 OVERALL CIRCUIT DIAGRAM (AM(AMJK 1/6), AMJK 4/6, AMJK 5/6, MK-76H, MK-76L, PB(AMJK 6/6), PN 2/5, PNL(PN 3/5), PNR(PN 1/5), TWL(PN4/5, 5/5), TWR(PN 4/5, 5/5), USB(AMJK 3/6))

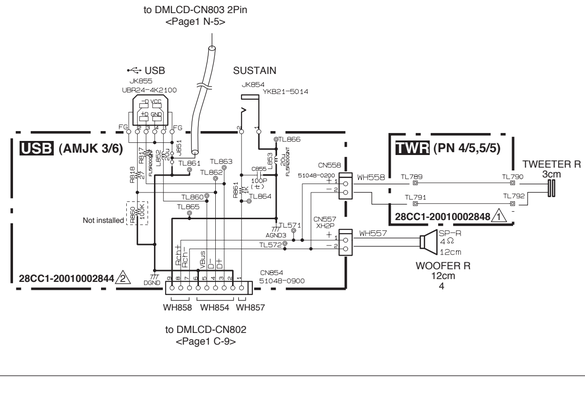


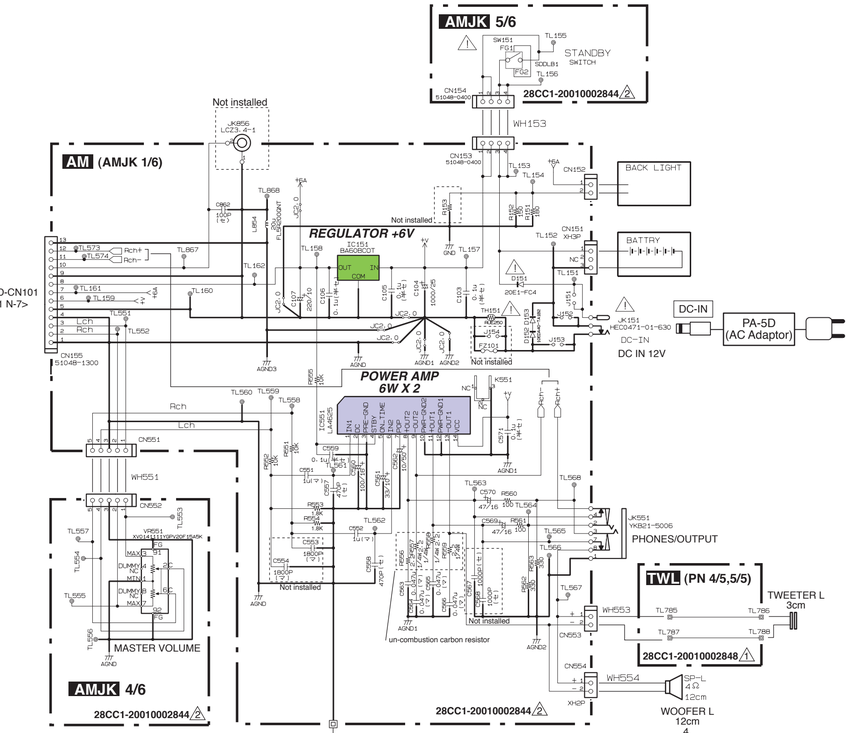












（セ）：Ceramic Capacitor
（マ）：Mylar Capacitor
（半セ）：Monolithic Ceramic Capacitor

Note: See Parts list for details of circuit board component parts.